Serfojee Rajah 1817

ANIMAL BIOGRAPHY,

OR

POPULAR ZOOLOGY;

COMPRISING

AUTHENTIC ANECDOTES

OF

THE ECONOMY,

HABITS OF LIFE, INSTINCTS, AND SAGACITY,

OF THE

ANIMAL CREATION.

ARRANGED ACCORDING TO THE SYSTEM OF LINNÆUS.

BY THE REV. W. BINGLEY, A. M.

FELLOW OF THE LINNEAN SOCIETY,

AND LATE OF PETERHOUSE, CAMBRIDGE.

IN THREE VOLUMES.

FOURTH EDITION,

With an Addition of more than One Hundred and Forty Species.

VOL. II.

CETACEOUS ANIMALS—BIRDS—AMPHIBIOUS ANIMALS.

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ANIMAL BIOGRAPHY.

Cetaceous Animals*.

OF THE NARWAL TRIBE†.

THE Narwals are distinguishable, at first sight, from all other Cetaceous Animals, by the long, hard, spiral, and sharp-pointed weapons which project from the anterior part of their upper jaw. They obtained the name of *Narh-wal*, or whale which feeds on dead bodies, from their having been believed to subsist on such dead and putrid animals as they found floating in the water.

THE UNICORN NARWAL, OR SEA UNICORN‡.

Such are the size and bulk, and so powerful are the muscles of these animals, that they are able, in their own element, to move, in all directions, with astonishing velo-

* The animals of the Linnean order Cete have spiracles on the fore part of the skull. They have no feet: their pectoral fins are without nails; and the tail is horizontal.—For a more particular account, see vol. i. p. 19.

† The Narwals have one or two very long weapons projecting from the front of their upper jaw. There are no teeth in the lower jaw. The orifices of the spiracles are united, and situated on the highest part of the head.

‡ DESCRIPTION. This animal measures from twenty to thirty feet in length, exclusive of the weapon in front of its head, which is

city. The weapon which projects, sometimes to the length of six or eight feet, from their upper jaw, is one of the most formidable that can well be imagined. When urged with all their force, it will penetrate even into the solid timbers of a ship; and the body of no animal whatever is sufficiently hard to resist its effects. This weapon is not a horn, but is a species of tusk, in its substance not greatly dissimilar to the tusks of the elephant. As ivory, it is, however, much more valuable than these, from the circumstance of its being harder, and capable of receiving a much higher polish.

The detached weapons of Narwals are deposited, in many cabinets, as the horns of that generally esteemed fabulous quadruped, the unicorn. These have occasionally been found broken short off, and deeply buried in the keels and bottoms of vessels; and even in the bodies of some of the largest species of Whales, which either accident or design may have led the Narwals to plunge against.

These animals do not appear to have any organs of voice. In their general disposition and manners they are stated to be sufficiently mild and peaceable; and to be formidable only when compelled to defend themselves from the attack of their enemies. Their principal food consists of small fish, and marine mollusca, such as the actiniæ and cuttle-fish: the horny mandibles or jaws of the latter have sometimes been found in their stomachs in

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from five to eight feet long. In some individuals there are two weapons. The head is small in proportion to the size of the body; and the fins on the breast are also small. There is no dorsal fin. The skin is white, variegated with numerous black spots on the upper parts of the body.

SYNONYMS. Monodon Monoceros. *Linnæus.*—Le Narwal vulgaire. *La Cepede.*—Horned Narwal. *Kerr.*—*Shaw's Gen. Zool. Pl.* 225.

immense quantity. They usually swim in troops; and are found in most parts of the Northern Ocean. The Greenlanders pursue and kill them on account of their oil, for domestic uses, their flesh for food, and their teeth as articles of traffic.

The females produce each a single young-one at a birth; which they nourish for several months with milk, supplied from teats that are situated near the origin of the tail.

An individual of this species, twenty-five feet in length, was stranded near Friestone, in Boston Deeps, Lincolnshire, in the month of February, 1800; and another, about eighteen feet in length, was cast ashore and taken alive, not far from Boston, a few years before.

*OF THE WHALE TRIBE**.

Whales are the objects of eager pursuit by the inhabitants of various nations, on account, principally, of the oil or blubber which their bodies yield in enormous quantity; and the *whalebone*, the laminæ or blades of which supply, in these animals, the place of teeth, in catching and securing their food †.

There are about six ascertained species of Whales, inhabitants chiefly of the icy regions surrounding the North Pole. They prey upon various kinds of fish, particularly upon herrings, in the shoals of which they commit great devastation. They also feed on shell-fish, and the me-

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* The Whales have no teeth either in their under or upper jaw; but in place of these, the upper-jaw is furnished with the horny laminæ called *whalebone*. On the top of the head there is a tubular opening or spiracle, with a double external orifice. The skin is in general black, or brown; very thick, and without any hair.

† For a particular account of the whalebone, see vol. i. p. 20.

dusæ or sea-bluber. The females generally produce but one young-one at a birth.

THE GREAT WHALE *.

The size and bulk of these animals are generally enormous; and their muscular powers so great, that a blow of their horizontal tail is at any time sufficient to upset a tolerably large boat; and, when struck upon the surface of the ocean, to make the water fly, with tremendous noise, in all directions. They are able to eject water from the spiracles on their head, to the height of nearly forty feet.

Nature's strange work, vast Whales of differing form,
Toss up the troubled floods and are themselves a storm;
Uncouth the sight, when they, in dreadful play
Discharge their nostrils, and refund a sea;
Or angry lash the foam with hideous sound,
And scatter all the watery dust around.
Fearless the fierce destructive monsters roll,
Ingulph the fish, and drive the flying shoal.
In deepest seas these living isles appear,
And deepest seas can scarce their pressure bear:
Their bulk would more than fill the shelvy strait,
And fathom'd depths would yield beneath their weight.

This animal employs the tail alone to advance itself in the water; and the force and celerity with which so enormous a body cuts its way through the ocean, are truly astonishing. A track is frequently made in the water like what would be left by a large ship; this is called his wake,

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* Description. This is believed to be the largest of all living creatures. It usually measures from fifty to a hundred feet in length, and some individuals have been taken of even considerably greater length than this. The head, which constitutes nearly a third

and by this the animal is often followed.—The fins are only applied in turning and giving a direction to the velocity impressed by the tail. The female indeed sometimes uses them, when pursued, to bear off her young-ones, for she places these on her back, supporting them from falling by the fins on each side.

These Whales are shy and timid animals, furnished with no weapons either of offence or defence, except their tail. As soon as they perceive the approach of a boat they generally plunge under water, and sink into the deep; but when they find themselves in danger they exhibit their great and surprising strength. In this case they break to pieces whatever comes in their way; and if they run foul of a boat, they dash it to atoms.

Their principal food consists of some species of crabs, and medusæ or sea-blubber.—From their naturally inoffensive disposition they have many enemies. Among these is a species of lepas or bernacle, which adheres to their body, chiefly under the fins, in the same manner as others of the same genus are seen sticking to the foul bottoms of ships. But the enemy they have most to dread is

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of the whole bulk, is flattish above. The mouth is exceedingly large, stretching almost as far back as the eyes. The tongue is very soft, being composed almost entirely of fat; and it adheres, by its under surface, to the lower-jaw. The gullet scarcely exceeds four inches in width. The eyes, which are not larger than those of the ox, are placed at a great distance from each other, on the sides of the head, in the most convenient situation possible for the animals' seeing around them. The skin is about an inch thick, and the outer or scarf skin about the thickness of parchment, and very smooth. Under the skin lies the blubber, which is from eight to twelve inches thick: this, when the animal is in health, is of a beautiful yellow colour. The tail is broad and semilunar.

SYNONYMS. Belæna mysticetus. *Linn.*—La Baleine Franche. *La Cepede.*—Wallfish. *Mart. Spitzb.*—Common Whale. *Penn.*—Great Mysticete. *Shaw.*—*Shaw's Gen. Zool.* ii. *tab.* 226.

the sword-fish. Whenever this appears, the Whale immediately exerts all his powers to escape its attack, which is always unavoidable if they meet. The sword-fish is sufficiently active to evade the blows that he makes with his tail, one of which, if it took place, must effectually destroy it. The sea, for a considerable space around, may be seen dyed with the blood that issues in copious streams from the wounds made in the Whale's body by the dreadful beak of his adversary. The noise made at each blow of the tail is said to be louder than that of a cannon. The fishermen, in calm weather, frequently lie on their oars as spectators of the combat, till they perceive the Whale at his last gasp; they then row towards him, and, the enemy retiring at their approach, they enjoy the fruits of his victory.

The fidelity of the male and female to each other exceeds that of most other animals. Some fishermen, as Anderson, in his History of Greenland, informs us, having struck one of two Whales, a male and female, that were in company together, the wounded animal made a long and terrible resistance: it upset a boat containing three men, with a single blow of its tail, by which all went to the bottom. The other still attended its companion, and lent it every assistance, till, at last, the one that was struck sunk under the number of its wounds, while its faithful associate, disdaining to survive the loss, with great bellowing, stretched itself upon the dead animal, and shared its fate.

To the Greenlanders, as well as to the natives of more southern climates, the Whale is an animal of essential importance; and these people spend much time in fishing for it. When they set out on their Whale-catching expeditions, they dress themselves in their best apparel, fancying that if they are not cleanly and neatly clad, the Whale, who detests a slovenly and dirty garb, would immediately avoid them. In this manner about fifty persons, men and women, set out together in one of their

large boats. The women carry along with them their needles and other implements to mend their husbands' clothes, in case they should be torn, and to repair the boat, if it happen to receive any damage. When the men discover a Whale, they strike it with their harpoons, to which are fastened lines or straps two or three fathoms long, made of seal-skin, having at the end a bag of a whole seal-skin, blown up. The huge animal, by means of the inflated bag, is in some degree compelled to keep near the surface of the water. When he is fatigued and rises, the men attack him with their spears till he is killed. They now put on their *spring jackets*, (made all in one piece of a dressed seal's skin,) with their boots, gloves, and caps, which are laced so tightly to each other, that no water can penetrate them. In this garb they plunge into the sea, and begin to slice off the fat all round the animal's body, even from those parts that are under water; for, their jackets being full of air, the men do not sink, and they have means of keeping themselves upright in the sea. They have sometimes been known so daring as, while the Whale was still alive, to mount on his back and kill him from thence.

The period of gestation in the female is supposed to be nine or ten months, and she generally produces but one at a birth. When she suckles it she throws herself on one side, on the surface of the water, and in this position the young-one attaches itself to the teat. She is extremely careful of her offspring, carrying it with her wherever she goes; and, when hardest pursued, supporting it between her fins. Even when wounded she is said still to clasp it; and if she plunges to avoid danger, she takes it with her to the bottom: but in this case she always rises sooner than she otherwise would, for the purpose only of giving it breath.—The young-ones continue with the dams for nearly twelve months: during this time they are called

by the sailors *Short-heads*. They are then extremely fat, and will yield each above fifty barrels of blubber. At two years old they have the name of *Stunts*, from not thriving much immediately after quitting the breast: at this age they will scarcely yield more than twenty barrels of blubber. From the age of two years they are denominated *Skull-fish*.

The flesh of the Whale is very dry and insipid, except about the tail, which is more juicy, but still very tasteless. The horny laminæ in the upper jaw, called *whalebone*, are very valuable as an article of commerce: but these animals are principally pursued for their oil or blubber.

The seas that are principally inhabited by the Great Whales, are those in about the seventeenth degree of north latitude, near Spitzbergen and Greenland. These animals are likewise found in the seas of the high southern latitudes, and are said sometimes to visit the shores even of countries near the torrid zone. They have been observed in the Mediterranean, and occasionally in the neighbourhood of the British coasts. Willughby speaks of one that was stranded near Tinmouth in Northumberland. In the year 1652, a Great Whale, eighty feet in length, was cast ashore in the Frith of Forth, and, about thirty years afterwards, another, somewhat more than seventy feet in length, near Peterhead, in Scotland.

OF THE CACHALOT TRIBE*.

The interior organization of the Cachalots, is somewhat different from that of the whales, and requires a nourishment more substantial than small fish and marine mol-

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* The upper jaw is broad, and entirely destitute of teeth, or with teeth so short, as to be nearly concealed in the gum. The under

lusca. These animals consequently attack and devour several of the larger kinds of fish, and occasionally even porpesses, dolphins, and young whales, which they are enabled to seize and tear in pieces by means of their teeth. They are not contented, like the whales, with merely exerting their strength in self-defence; but will themselves provoke a combat with the larger inhabitants of the element in which they reside, and will attack and destroy them with the utmost vigour and address. Their ferocity and their muscular powers are such, that all the species are considered by the fishermen extremely dangerous, and one or two of them in particular they are generally very cautious to avoid. It is said that some of them, when they are attacked, will throw themselves on their back, and in that position will defend themselves with their mouth.

These animals inhabit chiefly the Northern Ocean, and nearly the same latitudes as the whales. They frequently swim in troops. Their muscular powers are very great; and notwithstanding their immense and blunt heads, they are able to cut their way through the water with astonishing rapidity.

THE BLUNT-HEADED CACHALOT, OR SPERMACETI WHALE *.

The velocity with which these Cachalots dart through the water is greater, and their progressive motion is per-

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jaw is narrow and furnished with large, conical teeth, which fit into sockets in the upper jaw. The spiracles have only a single external orifice. The bodies of these animals are entirely naked, and their skin is very smooth and soft.

* Description. The length of this animal, when full grown, is about seventy feet, and its girth about fifty. When viewed from above, it appears like an immense animated mass, truncated in front, so that the muzzle terminates in a somewhat squared, and almost

formed by much more elevated bounds or curves, than those of many of the whales. They generally swim in troops, consisting of a great number, both of males and females. In the month of March, 1784, there were thirty-two cast ashore at the same time, during a violent gale of wind, in the neighbourhood of Audierne, in France. Their bellowing was heard to the distance of more than a league. Two men, who happened to be walking along the coast not far from the place where the animals were stranded, not conceiving what they could possibly be, were thrown into the utmost agitation and alarm, at their noise, and on seeing them floundering in the shallow water, and beating about the sand and mud in all directions, at the same time occasionally throwing water from their spiracles to an immense height, and with tremendous noise. They were all young animals, but the smallest of the whole measured upwards of thirty feet, and the largest nearly fifty feet in length. They were not able to regain the sea; but they continued alive on the sand for upwards of twenty-four hours.

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perpendicular extremity. The head constitutes nearly one-third of the whole body: the mouth is situated at the under part, and the under jaw is so small, in comparison with the upper, as to have somewhat the appearance of the lid or cover of an enormous box turned upside down. The eyes are situated above the corners of the mouth; and are so minute, as to be scarcely perceptible. The pectoral fins are each about three feet in length. On the posterior part of the back there is a longitudinal and callous protuberance, or spurious fin. The tail is very short and slender, each of the lobes being hollowed somewhat like the blade of a scythe. The skin is smooth, oily, and almost as soft to the touch as silk. Its colour is usually black.

SYNONYMS. Physeter macrocephalus. *Linnæus.*—Le Cachalot macrocéphale. *La Cepede.*—Blunt-headed Cachalot. *Pennant.*—Spermaceti Whale, or Parmacity Whale, by the English seamen.—*Shaw's Gen. Zool. Pl.* 228.

Few animals are more voracious than these, nor can we be surprised at their voracity, when we consider their enormous bulk, and the immense quantity of nourishment that they must of necessity require. They feed on various kinds of fish which swim in shoals, both large and small, nor do they seem to refuse any marine animals that come in their way. They swallow myriads of the different kinds of molusca, particularly cuttle-fish, the beaks or jaws of which are often found in their stomachs and intestines; and they pursue and attack dolphins, porpesses, and even several species of sharks. We are informed by Fabricius, that the tremendous white shark, so much dreaded by the other inhabitants of the ocean, flies with precipitation from the Blunt-headed Cachalot: that, in the excess of its alarm, it will often dart to the bottom of the ocean, and endeavour to conceal itself in the sand or mud, from the piercing sight of its adversary: that it will sometimes incautiously throw itself against the rocks, with such force as to occasion its almost immediate death: and that, in spite of its usual voracity, this shark will not dare to approach even the dead body of the Cachalot.

There is, in the upper part of the skull of the Cachalots, an immense cavity, perfectly distinct from the cavity which contains the brain. This sometimes occupies nearly one-fourth part of the whole head, extending from the front almost to the eyes, and being sometimes as much as sixteen or eighteen feet in length. It is divided horizontally into two parts by a strong membrane; and each of these parts is again subdivided, by vertical membranes, into numerous cells, which communicate with each other, and which contain a peculiar kind of fat, denominated (though very improperly) *Spermaceti*. This, which has frequently been mistaken for the brain, is sometimes found in such quantity, that as much as eighteen or twenty butts of it have been taken from the head of the largest Cachalots.

The spermaceti, when the animals are alive, is perfectly fluid, but when cold it is of a whitish colour, and is found in somewhat solid lumps. That which is considered the most pure, and consequently most valuable, is contained in the smallest cells, which lie above the spiracles, all along the upper part of the head, immediately above the skin and the adipose membrane. These cells resemble those which contain the common fat in the other parts of the body nearest the skin. A canal of considerable size communicates with the cavity of the head containing the spermaceti, and branching from thence, over the whole body, conveys to all the parts a portion of this fluid, to answer its peculiar purpose in the animal economy.

The oil produced from this Cachalot is not by any means in such quantity as that produced from some of the Whales; but in quality it is far preferable, since it yields a bright flame, without at the same time exhaling any nauseous smell. The flesh is of a pale red colour, appearing not much unlike coarse pork, and it is said to be very palatable as food.

The substance known by the name of ambergris, is produced from the body of this animal. It is generally found in the stomach, but sometimes in the intestines; and, in a commercial view, is an highly valuable production. As we see it in the shops, it is an opake substance, which varies in solidity according to its exposure to a warm or cold atmosphere.

Although this animal is most frequently met with in the Northern Ocean, in the latitudes of Greenland, Spitzbergen, and Iceland, yet it is occasionally seen off the British coasts, and sometimes even in the Mediterranean Sea. It appears to have been known both to Aristotle and Pliny.

OF THE DOLPHINS IN GENERAL*.

These animals inhabit various seas, being occasionally found both in hot and cold climates. They are much smaller than the whales, the largest species, which is the Grampus, seldom exceeding twenty or five-and-twenty feet in length. The colour of three of the species is black on the upper, and white on the under parts; that of the remaining one is entirely white. They are often seen in shoals of from five or six to twenty and upwards in number, gamboling about the ocean. Their food consists almost wholly of fish, and principally of mackerel and herrings.

THE COMMON DOLPHIN†.

Dolphins are occasionally observed in almost every part of the ocean; among the icy bays around the polar circles, in the happy climates of the temperate zones, and under the vertical sun of the equatorial seas.

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* The Dolphins have a row of large teeth in each jaw; and the spiracles have only a single external orifice, which is situated near the top of the head.

† Description. The body of the Dolphin is oblong and roundish, and the snout narrow and sharp-pointed, with a broad transverse band, or projection of the skin, on its upper part. It is a longer and more slender animal than the porpesse, measuring nine or ten feet in length, and about two in diameter. The body is black above and white below. The mouth is very wide, reaching almost to the thorax, and contains forty teeth; twenty-one in the upper, and nineteen in the under-jaw: when the mouth is shut, the teeth lock into each other.

Synonyms. Delphinus Delphis. *Linn.*—Le Dauphin vulgaire. *La Cepede.*—True Dolphin. *Kerr.*—Delphin. *Anderson.*—*Shaw's Gen. Zool.* ii. *tab.* 229.

They are predatory animals, and pursue, with avidity, various species of fish, but particularly cod, herrings, and some kinds of flat-fish. In some countries they are known to follow the shoals of mullets sometimes even into the nets of the fishermen. Their motions in the water are performed with such wonderful rapidity, that the French sailors frequently call the Dolphin *la flèche de la mer*, or "the sea-arrow;" and Rondelet says, that persons who tormented themselves to do what was considered impossible, were often proverbially compared to those who would hold a Dolphin by the tail. M. de Saint Pierre, in his voyage to the Isle of France, assures us that he saw a Dolphin swim, with apparent ease, round the vessel in which he was sailing, though it was going at the rate of about six miles an hour. A shoal of these animals followed the ships of Sir Richard Hawkins upwards of a thousand leagues. They were known to be the same by the wounds they occasionally received from the sailors. They are greedy of almost any kind of scraps that are thrown overboard; and consequently are often to be caught by means of large iron hooks baited with pieces of fish or garbage. They are fond of swimming round casks or logs of wood which they find driving in the sea. They generally swim in troops, and their progressive motion in the water, somewhat resembles the undulating motion of a ship under sail; and it has been remarked, that when their regular course has not by any accident been changed, they usually swim against the wind. Their evolutions and gambols on the surface of the ocean, sometimes afford a most interesting and entertaining spectacle. By curving their body, and suddenly extending it, like salmon and some other kinds of fish, they are enabled to leap to a very considerable height above the surface of the water. When they are in eager pursuit of prey, and sometimes even in their gambols, these leaps have been repeated with such astonishing celerity,

that it is scarcely possible to conceive how, in such short intervals, the necessary force could be impressed. They have been known on these occasions to spring forward to a distance of more than twenty feet at a single bound.

What pleasing wonders charm the sailors' sight,
When calms the Dolphins to their sports invite?
As jovial swains in tuneful measure tread,
And leave their rounding pressures on the mead;
So they in circling dance, with wanton ease,
Pursue each other round the furrow'd seas,
With rapid force the curling streams divide,
Add to the waves, and drive the slow-paced tide.

The Dolphin was in great repute among the ancients, and both philosophers and historians seem to have contended who should relate the greatest absurdities respecting it. It was consecrated to the gods, was celebrated for its love to the human race, and was honoured with the title of the Sacred Fish.

Kind gen'rous Dolphins love the rocky shore,
Where broken waves with fruitless anger roar.
But though to sounding shores they curious come,
Yet Dolphins count the boundless sea their home.
Nay, should these favourites forsake the main,
Neptune would grieve his melancholy reign.
The calmest, stillest seas, when left by them,
Would rueful frown, and all unjoyous seem.
But when the darlings frisk in wanton play,
The waters smile, and ev'ry wave looks gay.

In all cases of shipwreck the Dolphin was believed to be in waiting to rescue and carry on shore the unfortunate mariners. Arion, the musician, when thrown overboard by the pirates, is said to have been indebted for his life to this animal.

But, past belief, a Dolphin's arched back
Preserved Arion from his destined wrack;
Secure he sits, and with harmonious strains
Requites the bearer for his friendly pains.

How these absurd tales originated, it is impossible even to conjecture; for Dolphins certainly exhibit no marks of peculiar attachment to mankind. If they attend on the vessels navigating the ocean, it is in expectation of plunder, and not of rendering assistance in cases of distress. By the seamen of the present day they are held rather in abhorrence than esteem, for their frolics on the surface of the water are almost the sure signs of an approaching gale.

The painters, both of ancient and modern times, have invariably depicted the Dolphin with its back greatly incurvated. This crooked form, however, is never assumed by the animals, except in the act of leaping out of the water. Dolphins are said to change their colour before they die, and again after they are dead.

Their flesh was formerly held in great esteem; it is, however, very dry and insipid: the best parts are those near the head. It is seldom eaten now, but when the animals that are taken happen to be young and tender.

THE PORPESSE *.

This animal has a great resemblance to the dolphin, both in its general external appearance, and in its habits

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* Description. The Porpesse is well known in all the European seas. In its general form it very much resembles the dolphin; it is, however, somewhat less in size, and has a snout both much broader and shorter. It is generally from six to seven feet in length; thick in the fore-parts, and gradually tapering towards the tail. The colour is either a blueish black, or a very dark brown above, and nearly white beneath.

Synonyms. Delphinus Phocœna. *Linn.*—Le Marsouin. *La Cepede.*

of life. It has the same qualities, and even the same affections, and yet how different has been its general estimation with mankind! The dolphin was consecrated to the gods, and the Porpesse has, in nearly all languages, been degraded by the appellation of *Sea-hog*. But the dolphin is indebted for its high repute to the vivid imaginations of the Grecian poets, whilst the Porpesse, almost unknown to the ancients, has received its name from sailors and fishermen. In the naturalist, however, they excite equal interest, and from him they are deserving of equal attention.

It is seldom that Porpesses are seen, except in troops of from six or seven, to thirty and upwards in number. The great size of their caudal fin, and the strong muscles of their tail, contribute to render them very active in the water; along the surface of which, like the dolphins, they sometimes move with surprising rapidity. They frequently gambol about on the water with great vivacity. Their appearance is believed by the seamen to be prognosticative of approaching storms; and, on that account, they are held by them in great detestation. During the most tempestuous weather they are able to surmount the waves, and to pass along the agitated surface of the ocean, fearless of danger, and secure from injury.

They feed on nearly all kinds of fish, but particularly on such as swim in large shoals, as mackerel, herrings, and cod of different kinds, which they pursue with astonishing voracity. But not only do they seek for prey near the surface of the water: they also occasionally descend to the bottom, and root about among the sand and mud, for

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—Porpoise. *Kerr.*—Porpesse. *Pennant.*—Sea-hog, Porpesse-pig, by the English seamen.—According to Borlase, the name of Porpesse is derived from *porcus-piscis*, signifying swine-fish.—Meer-Schwein, in Germany.—*Shaw's Gen. Zool. Pl.* 229.

flat-fish, sand-launces*, and various kinds of marine worms.—We are informed, likewise, that whenever a Porpesse happens to be wounded, all the rest of the troop will immediately attack and devour it.

The females seldom produce more than one young-one at a birth. The period of gestation, according to Anderson, is only six months; but, according to Aristotle, it is ten months, which seems much the most probable. The offspring are said to continue with the mother for nearly a year after they come into the world.

In the river St. Lawrence, in Canada, these animals are very numerous; and, as they generally frequent the shoal-water there, in search of prey, the natives adopt the following method of catching them: when the fishing-season arrives, the people collect together a great number of sallow twigs, or slender branches of other trees, and stick them pretty firmly into the sand-banks of the river, which at low water are left dry: this is done on the side towards the river, forming a long line of twigs at moderate distances, which at the upper end is connected with the shore, an opening being left at the lower end that they may enter. As the tide rises, it covers the twigs so as to keep them out of sight: the Porpesse, in quest of his prey, gets within the line, where he continues his chase till he finds, by the ebbing of the tide, that it is time to retire into deeper water. He now makes towards the river; but the twigs being then in part above water, and all agitated by the current, he no sooner sees them shaking about, than he takes fright, and retreats backwards as far as he can, from this tremendous rampart. The tide still continuing to ebb, he returns time after time; but, never being able to overcome his dread of these terrific twigs, he rolls about

* *Ammodytes tobianus* of Linnæus.

until he is deserted entirely by the water; when those who placed the snare rush out in numbers, properly armed, and in this defenceless state overpower him with ease. In this manner more than a hundred of these huge creatures (one of which will yield about a hogshead of oil) have been killed at one tide.

The Porpesse was once considered as a sumptuous article of food, and is said to have been occasionally introduced at the tables of the old English nobility. It was eaten with a sauce composed of sugar, vinegar, and crumbs of fine bread. It is, however, now generally neglected, even by the sailors.

In America the skin of this animal is tanned and dressed with considerable care. At first it is extremely tender, and nearly an inch thick; but it is shaved down till it becomes somewhat transparent. It is made into waistcoats and breeches by the inhabitants; and is said also to make an excellent covering for carriages.

THE GRAMPUS*.

The Grampus is a decided and inveterate enemy to the different species of whales; great flocks of them attack the largest of these, fastening round them like so many bulldogs, making them roar out with pain, and frequently

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* Description. The length of this animal is usually from twenty to twenty-five feet. In its general form and colour it much resembles the rest of its tribe; but the lower-jaw is considerably wider than the upper, and the body in proportion somewhat broader and more deep. The back fin sometimes measures six feet in length.

It is found in the Mediterranean Sea, as well as in both the Northern and Southern Oceans.

Synonyms. Delphinus orca. *Linnæus.*—L'Orgue. *La Cepede.*—Killer. *Catesby.*—*Shaw's Gen. Zool. Pl.* 232.

killing and devouring them. They are also said to attack and devour the seals, which they occasionally find sleeping on the rocks; dislodging them by means of their back fin, and thus precipitating them into the water.

From their vast agility they are not often caught. They seldom remain more than a moment above the surface of the ocean; but their eager pursuits sometimes throw them off their guard, and allure them into the shallow waters. In this case the hungry animal continues to flounder about, till either knocked on the head by those who happen to observe it, or till the tide comes seasonably to its relief. In one of the poems of Waller, a story (founded in fact) is recorded, of the parental affection of these animals. A Grampus and her cub had got into an arm of the sea, where, by the desertion of the tide, they were enclosed on every side. The men on shore saw their situation, and ran down upon them with such weapons as they could at the moment collect. The poor animals were soon wounded in several places, so that all the immediately surrounding water was stained with their blood. They made many efforts to escape; and the old one, by superior strength, forced itself over the shallow, into a deep of the ocean. But, though in safety herself, she would not leave her young-one in the hands of assassins. She therefore again rushed in; and seemed resolved, since she could not prevent, at least to share the fate of her offspring. The story concludes with poetical justice; for the tide coming in, conveyed them both off in triumph.

The Whale-Fishery.

In a commercial view the Whale tribe is of great importance to mankind; supplying us with those two valuable articles, oil and whalebone, and likewise with spermaceti. They are chiefly taken in the northern seas.

The English send out with every ship six or seven boats: each of these has one harpooner, one man at the rudder, one to manage the line, and four seamen as rowers. In each boat there are also two or three harpoons; several lances; and six lines, each a hundred and twenty fathoms long, fastened together.

As soon as the Whale is struck with the harpoon, he darts down into the deep, carrying off the instrument in his body; and so extremely rapid is his motion, that, if the line were to entangle, it would either snap like a thread, or overset the boat. One man, therefore, is stationed to attend only to the line, that it may go regularly out; and another is employed in continually wetting the place it runs against, that the wood may not take fire from the friction. It is very wonderful that so large an animal should be able with such astonishing velocity to cut through the water; for his motion is as rapid as the flight of an eagle.

When the Whale returns to breathe, the harpooner inflicts a fresh wound; till at length he faints from loss of blood: the men now venture the boat quite up to him, and a long steeled lance is thrust into his breast, and through the intestines, which soon puts an end to his existence.

The carcase no sooner begins to float, than holes are cut in the fins and tail; and ropes being fastened to these, it is towed to the ship, where it is lashed to the larboard side, floating with the back in the water.

The operation next to be performed, is that of taking out the blubber and whalebone. Several men get upon the animal with a sort of iron spurs, (to prevent their slipping,) and separate the tail, which is hoisted on deck: they then cut out square pieces of blubber, weighing two or three thousand pounds each; which, by means of the capstan, are also hoisted up. These are here cut into

smaller pieces, which are thrown into the hold, and left for three or four days to drain. When all the blubber is cut from the belly of the fish, it is turned on one side, by means of a piece of blubber left in the middle, called the cant, or turning-piece. The men then cut out this side in large pieces, as before; and also the whalebone, with the gums, which are preserved entire, and hoisted on deck, where the blades are cut and separated, and left till the men have time to scrape and clean them. The Whale is next turned with its back upwards, and the blubber cut out from the back and crown bone: and they conclude the whole by cutting the blubber from the other side. But previously to letting the remainder of the body float away, they cut out the two large upper jaw-bones; which, being hoisted on deck, are cleansed, and fastened to the shrouds, and tubs are placed under them to receive the oil which they discharge. This oil is a perquisite of the captain's.

In three or four days they hoist the pieces of blubber out of the hold, chop them, and put them by small pieces into the casks, through the bung-holes.

A Whale, the longest blade of whose mouth measures nine or ten feet, will yield about thirty butts of blubber; but some of the largest yield upwards of seventy. One of the latter is generally worth about 1000*l.* sterling: and a full ship, of three hundred tons burthen, will produce more than five thousand pounds from one voyage.

Premiums on every Whale that is taken are given to all engaged, from the captain, even to the men who row the boats; which render them active in the service of their employers.

To give the reader some idea of the produce of the Whale-fishery, I shall make choice of the season of the year 1697, as perhaps the most fortunate that ever was known. In this year there were a hundred and eighty-nine vessels of different nations; of which a hundred and

twenty-one were Dutch, forty-seven from Hamburgh, two Swedish, four Danish, twelve from Bremen, two from Embden, and one from Lubec: which caught, in all, one thousand nine hundred and sixty-eight fish. The following was the number of puncheons of blubber produced:

By the Dutch captures	41,344
—— Hamburghers	16,414
—— Swedes	540
—— Danes	1,710
—— Bremeners	3,790
—— Embdeners	68
Total	63,866

Estimating the whalebone at about two thousand pounds weight for every Whale, there must have been in the whole not much less than 4,000,000 pounds.

Mr. Anderson, in his Natural History of Iceland and Greenland, observes, from an account of the Dutch Whale-fishery for forty-six years, ending in 1721, that in this time that nation had employed five thousand eight hundred and eighty-six ships, and caught thirty-two thousand nine hundred and seven Whales; which, valued on an average at five hundred pounds each, give an amount for the whole value, of above sixteen millions sterling, gained out of the sea, mostly by the labour of the people; deducting the expence of the wear and tear of shipping, the casks, and the provisions.

The Whale-fishery begins in May, and continues through the months of June and July: but whether the ships have had good or bad success, they must come away and get clear of the ice by the end of August; so that in the month of September at furthest they may be expected home. The more fortunate ships, however, often return in June or July.

BIRDS*.

Rapacious Birds†.

OF THE VULTURES IN GENERAL‡.

THE characters which principally distinguish this tribe from the eagles and falcons, are the want of feathers on part of the head, and sometimes even on the whole head and neck; and their voracious manners, since they never kill prey from *choice*, but in general devour only such animals as are either dying, or found dead and putrid. Their sense of smelling is so exquisite, that they are able to scent a dead body at the distance of many miles. "They are (says Mr. Pennant) greedy and voracious to a proverb; and not timid, for they prey in the midst of cities, undaunted by mankind." In some of the battles in

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* For an account of Birds in general, see vol. i. p. 22.

† In the birds which constitute the present order, the bill is somewhat hooked, having the upper mandible either dilated a little towards the point, or furnished with a tooth-like process. The nostrils are open. The feet are stout, and armed with strong hooked claws, three placed forwards, and one backwards.

‡ The Vultures have their bill straight, and hooked only at the end; its edges are sharp, like a knife, and the base is covered with a thin skin. The head, cheeks, and, in many species, the neck, are either naked, or clad only with down or short hairs. The tongue is large, fleshy, and cleft at the end. The craw often hangs over the breast. The legs and feet are covered with great scales; and the first joint of the middle toe is connected to that of the outermost by a strong membrane. The claws are large, a little hooked, and very blunt; and the inside of the wings is covered with down.

the East, where vast slaughter takes place, of elephants, horses, and men, voracious animals crowd to the field from all quarters, of which jackals, hyænas, and Vultures, are the chief. Even in the places where the last are otherwise seldom observed, the plain will on these occasions be found covered with them. Vast multitudes will be seen in the air, descending from every side, to partake of the carnage. These the Indians believe to be brought by having an instinctive presentiment of slaughter, some days before the event.

It is observed that Vultures, in general, become less numerous as the climate becomes colder; and that in the more northern countries they are never found. They are undoubtedly a kind disposition of Providence, in the hotter regions, to prevent the putrid effluvia of the dead from too much injuring the health of the living.

THE CONDUR *.

Of the strength of this enormous bird we may form some idea, from the account that has been given of one of them which was shot by Father Feuillée, in the valley of Ylo in Peru. He informs us, that he discovered a Condur perched upon a great rock; and that he approached it within musket-shot and fired; but, as the gun was only

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* Description. This bird considerably exceeds in size the largest eagle. Its expanded wings sometimes extend to the dimensions of eighteen feet. Its body, bill, and talons, are proportionably large and strong: and its courage is equal to its strength. The throat is naked, and of a red colour. The upper parts, in some individuals, (for they differ greatly in colour,) are variegated with black, gray, and white; and the belly is scarlet.—The head of a Condur that was shot at Port Desire, off Penguin Island, resembled that of an eagle; except that it had a large comb upon it. Round the neck it had a white ruff, much resembling a lady's tippet. The feathers on the back were as black as jet, and

loaded with swan-shot, the lead could not do much more than pierce its feathers. He perceived, however, from its motions, that it was wounded: for it rose heavily, and could with difficulty reach another great rock, five hundred paces distant, upon the sea-shore. He therefore charged his piece with a bullet, and hit the bird under the throat. He then saw that he had succeeded, and ran to secure the victim: but it struggled obstinately with death; and, resting upon its back, repelled his attempts with its extended talons. He continues, "I was at a loss on what side to lay hold of it; and I believe that if it had not been mortally wounded, I should have found great difficulty in securing it. At last I dragged it down from the top of the rock; and, with the assistance of a sailor, carried it away to my tent."

Some writers have affirmed that the Condur is twice as large as the eagle, and so strong that it can pounce and devour a whole sheep; that it spares not even stags, and easily overthrows a man. Others say, that its beak is so firm that it can pierce a cow's hide, and that two of them are able to kill that animal and devour the carcase.

Ulloă states, that he once saw, in South America, a Condur seize and fly away with a lamb. "Observing (says he) on a hill adjoining to that where I stood, a flock of

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perfectly bright. The legs were remarkably strong and large; the talons like those of an eagle, except that they were not so sharp; and the wings, when extended, measured, from point to point, twelve feet.—In the Leverian Museum there were two specimens of the Condur, supposed to be male and female; on the breast they had a kind of pendulous, pear-shaped substance. The male measured ten feet from tip to tip of the wings.

The Condur is an inhabitant of South America.

Synonyms. Vultur Gryphus. *Linn.*—Le Condor. *Buffon.*—Magellanic Vulture. *Shaw's Trav.*—Manque, by the inhabitants of Chili.—Condur. *Latham.*—*Latham's Second Supplement, Fig.* 1.

sheep in great confusion, I saw one of these birds flying upwards from among them, with a lamb betwixt its claws; and when at some height, it dropped it. The bird immediately followed, took it up, and let it fall a second time; when it flew out of sight, on account of the Indians, who, at the cries of the boys and the barking of the dogs, were running towards the place.

Frezier, in a voyage to the South Seas, also thus describes the Condur:—"We one day killed a bird of prey called the Condur; which was nine feet from the end of one wing to the end of the other, and had a brown comb or crest, but not jagged like that of a cock. The forepart of its throat was red, without feathers, like a turkey. These birds are generally large and strong enough to take up a lamb. In order to separate one of those animals from the flock, they form themselves into a circle, and advance towards them with their wings extended, that, by being driven too close together, the full-horned rams may not be able to defend their young. They then pick out the lambs, and carry them off.—Garcilasso says, there are some Condurs in Peru sixteen feet from the point of one wing to that of the other, and that a certain nation of Indians adore them."

These enormous animals make their nests among the highest and most inaccessible rocks. The female lays two white eggs, somewhat bigger than those of a turkey.

In the country which they inhabit, they seem to supply the place of wolves; and are as much feared by the inhabitants as wolves are in other climates. In consequence of this, many modes of destroying them are adopted.—Sometimes a person, covering himself with the hide of a newly skinned animal, goes out, and so manages it, that the bird will attempt to attack him in this disguise: other persons that have hidden themselves, then come forward to his assistance; and, all at once falling on the bird, over-

power and kill it. A dead carcase is also sometimes put within a very high enclosure; and when the Condur has satiated himself, and is unable to rise freely, persons are in readiness to subdue him. On these latter occasions the bird is inactive; but in general he possesses a very quick flight, soaring frequently to a height beyond the reach of human vision. Sometimes they are caught by means of traps and springes.

It has been generally imagined, that this dreadful animal gave rise to the exaggerated description of the bird that makes so conspicuous a figure in the Arabian Tales, under the name of *Roc*: but this seems very improbable, as we have no satisfactory evidence of the Condur's having been ever found on the Old Continent. I am inclined to suppose that the traditions respecting the Roc originated in a very different bird; a variety of the bearded eagle, or the well-known lammer-geyer of the Alps*, which is occasionally seen among the mountains of the East.

THE CARRION VULTURE†.

In some of the countries bordering upon the torrid zone, these birds haunt the villages and towns in immense multitudes. In Carthagena, they may be seen sitting on

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* *Falco barbatus* of Linnæus.

† Description. The length of this bird is about four feet and a half, and its general weight betwixt four and five pounds. The head is small; and covered with a red skin, beset only with a few black bristles; which gives it a distant resemblance to a turkey. The whole plumage is dusky, mixed with purple and green. The legs are of a dirty flesh-colour, and the claws black.

Synonyms. Vultur Aura. *Linn.*—L'Urubu. Vautour. *Buff.*—Turkey Buzzard. *Catesby.*—Carrion Crow. *Sloane.*—Strunt-vogel. *Kolben.*—Carrion Vulture. *Latham.*—Urubu, by the natives of Cayenne.

the roofs of the houses, or even stalking along the streets. They are here of infinite service to the inhabitants; devouring that filth which would otherwise, by its intolerable stench, render the climate still more unwholesome than it is. When they find no food in the cities, they seek for it among the cattle of the adjoining pastures. If any animal is unfortunate enough to have a sore on his back, they instantly alight on it, and attack the part affected. The poor creature may in vain attempt to free itself from the gripe of their talons: even rolling on the ground is of no effect, for the Vultures never quit their hold till they have completed its destruction.

In few creatures are the designs of Providence more clearly developed than in these. Filthy as they are in their manners, their appearance, and their smell, yet is even this filthiness a blessing to mankind. In hot climates, where putridity takes place in a few hours after death, what might be the effects of the aggregated stench, if it were not for the exertion of animals of this description! But in some countries they are rendered even of still further importance to mankind, by destroying the eggs of the alligator, an animal which must otherwise become intolerable by its prodigious increase. They watch the female in the act of depositing her eggs in the sand; and no sooner does she retire into the water, than they dart to the spot, and feast upon the contents of these.

The resemblance of these birds, at a distance, to the turkey, was the cause of considerable vexation to one of the officers engaged in the expedition round the world under Woodes Rogers. In the island of Lobos, immense numbers of them were seen; and, highly delighted with the prospect of such delicious fare after a long and tedious voyage, the officer would not wait even till the boat could put him ashore, but, with his gun in his hand, leapt overboard and swam to land. Approaching a large collection

of the birds, he fired among them, and killed several: but when he came to seize his game, he was sadly disappointed in finding that they were not turkeys; and their stench was almost insupportable.

Their bodies are extremely offensive to the smell; and they perch at night on rocks or trees, with their wings partly extended, apparently to purify themselves. They soar to a vast height, and have in the air the sailing motions of the kite. Carrion and filth of almost every description are their favourite food; and from the fineness of their scent, they can distinguish prey at an immense distance. They will eat even snakes, and sometimes seize on live lambs. When a dead body of any size is thrown out, they may be observed coming from all quarters, each wheeling about in gradual descent till he reaches the ground. They are not easily driven from their prey; but, when in the act of devouring it, will suffer persons to approach very near them.

THE AQUILINE, OR EGYPTIAN VULTURE *.

These disgusting animals frequent the sterile and sandy country in the neighbourhood of the Pyramids. They are also found in Cairo, in great flocks, where they feed on the

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* Description. The male is entirely white, except the quill-feathers, which are black, edged with hoary. The female is brown, with the same exception of the quill feathers. The two outermost primaries of each wing in the male, and the four outermost in the female, are entirely black. The head and neck are naked and wrinkled. The eyes are large and black; the beak is black and hooked, having its base covered with a yellow cere; and the talons are large and extended.

Synonyms. Vultur perchopterus. *Linn.*—Le Vautour d'Egypte. *Buffon.*—Vulturine Eagle. *Willughby.*—Alpine Vulture. *Latham.*—Aquiline Vulture. *Kerr.*

offal and dead animals in the streets promiscuously with the dogs. Every morning and evening they assemble with the kites, in the square below the castle, in order to receive the alms of fresh meat that have been left to them by the legacies of various wealthy men. By the ancient Egyptians they were esteemed sacred; and Herodotus informs us, that it was considered a capital crime to put one of them to death.

Their appearance is as horrid as can be imagined in any animal; and their whole body, from their habits of life, is covered with filth. Notwithstanding this, the inhabitants of the countries where they abound cannot be too thankful to Providence for supplying them with these active scavengers, to cleanse their towns and villages of the filth and putridity which otherwise, under a burning sun, and on lands often inundated by the river which fertilizes them, would fill the atmosphere with the most noxious exhalations.

In Palestine they are of infinite service in destroying the vast multitudes of rats and mice which breed in the fields; and which, without their assistance, would devour the whole fruits of the ground.

They also frequent the deserts, and there devour the bodies of men and animals which perish in those desolated regions. They every year follow the caravan from Egypt to Mecca, in order to feast upon the flesh of slaughtered beasts, and the carcases of the camels which die on the journey.

So little are these birds alarmed by the presence of mankind, that they will not even quit the places which they haunt, even when fired at with guns; but after a short flight they immediately return. If one of them is killed, the rest surround and devour it.

THE CAPE VULTURE*.

The sloth, the filth, and the voracity of these birds, almost exceed credibility. Whenever they alight on a carcase that they can have liberty to tear at their ease, they gorge themselves in such a manner that they become unable to fly, and even if pursued can only hop along. At all times they are birds of slow flight, and unable readily to raise themselves from the ground; and when overfed, they are utterly helpless. On the pressure of danger, however, they have the power of ridding themselves of their burthen, by vomiting up what they have eaten; and they then fly off with greater facility.

They frequent all the country at the Cape of Good Hope; and they are so familiar, that they oftentimes descend, in great numbers, near the entrance to the shambles of the Cape Town, and there devour the heads, entrails, and other offal of the animals slaughtered for the market. On the sea shores they are also very abundant, voraciously devouring all such animal substances as have been thrown upon the coast by the tides. They devour likewise crabs, tortoises, shell-fish, and even locusts.

In anatomizing a dead animal, Kolben informs us that they exhibit infinite dexterity. They separate the flesh from the bones in such a manner as to leave the skin almost en-

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* DESCRIPTION. This Vulture, in many particulars, resembles the last species. Its head, however, is of a bright blue colour, covered with yellowish down. The plumage is somewhat of a coffee colour. The small covertures of the wings are darker, and the quill feathers blackish. The legs are brown, and the beak and claws nearly black.

SYNONYMS. Vultur Kolbii. *Daudin's Ornith.*—Le Chasse fiente. *Le Vaillant.*—Cape Eagle. *Kolben.*

entire. On approaching a body thus destroyed, no one, till he had examined it, could possibly imagine that it was merely bone and skin, deprived entirely of the internal substance. They begin by tearing an opening in the belly, through which they pluck out and greedily devour the entrails: then entering the hollow, they also tear away all the flesh; and this without affecting the external appearance. "It often happens (says this writer) that an ox returning home alone to its stall from the plough, lies down by the way: it is then, if the Vultures perceive it, that they fall upon it with fury, and inevitably devour the unfortunate animal. They sometimes attempt the oxen while grazing in the fields; and then, to the number of a hundred or more, make their sudden attack all together."

Ravenous as these birds usually are, they are capable of existing for a great length of time without food. In the deserts their subsistence is sometimes very precarious. M. Le Vaillant states, that in the crop of some that he had killed, he had found nothing but pieces of bark, or a small quantity of clay: in the crop of others he had found only bones: and again, of others, the dung of animals. When urged by hunger, they are frequently known to devour their own species.

*OF THE FALCON OR EAGLE TRIBE**.

This, as well as the last, is an excessively rapacious tribe of birds. They prey altogether on animal food; yet seldom feed on carrion, except when driven to it by necessity. They are able to sustain hunger for a very great

* The bill is hooked; and is furnished at the base with a naked membranaceous skin, called *cere*. The head and neck are thickly beset with feathers. The nostrils are small, and placed in the cere;

length of time; often taking in as much food at once as will last them for several days without a fresh supply. Many of the species eat fish, and others are content with snakes and reptiles.

They never associate; and, except during the breeding season, even two of them are seldom seen together. They are very quick-sighted, and soar to amazing heights in the air. When they discern their prey, they dart upon it with the swiftness of an arrow: and their strength is so great, that some of them have been known to carry to their offspring a load nearly as heavy as themselves, from a distance of forty miles and upwards. Most of them build their nests in lofty and inaccessible places; but a few of the species form them on the ground. In general, the females are much larger than the males; for the purpose, as some have conjectured, of more easily providing food for their young.

About a hundred and forty different species have been discovered, of which upwards of twenty are natives of these kingdoms; but from the extreme difference in appearance between many of the males and females of the same species, it is sometimes a difficult task to ascertain them.

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and the tongue is broad, fleshy, and generally cleft at the end. The legs and feet are strong, muscular, and scaly; and, from their large, hooked, and very sharp claws, are well calculated for the predaceous habits of the animals. The middle toe is connected to the outermost by a strong membrane, and the claw of the outer toe is smaller than that of any of the others.

This tribe differs from the last principally in the animals having their bill and claws much more hooked and sharp; in having the head and neck in general thickly covered with feathers, instead of being naked, or covered only with down; and also in their usually killing their prey and eating it while fresh. The exuviæ and bones of their food they always emit at the mouth, in the form of round pellets.

THE SECRETARY FALCON *.

In its general external appearance, this bird resembles, in some degree, both the eagle and the crane; having its head shaped like that of the former, and somewhat the form of body of the latter. From the back of the head spring several long dark-coloured feathers, that hang loose behind like a pendent crest, which the bird can erect or depress at pleasure. "The Dutch (says Le Vaillant) gave it the name of Secretary, on account of the bunch of quills behind its head: for in Holland clerks, when interrupted in their writing, stick their pen in their hair behind their right ear; and to this the tuft of the bird was thought to bear some resemblance.

The Hottentots at the Cape of Good Hope distinguish this bird by a name that signifies the Serpent-eater; and

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* Description. This bird, when standing erect, measures about three feet from the top of the head to the ground. The bill is black, sharp, and crooked, like that of an eagle. The cere is white; and round the eyes there is a place bare of feathers, and of a deep orange colour. The upper eye-lids are beset with strong bristles, like eye-lashes. The general colour of the plumage is a blueish ash-colour; and the ends of the wings, the thighs, and vent, are blackish. The tail is somewhat ash-coloured, except at the end, which, for above an inch, is black, and then tipped with white: the two middle feathers are twice as long as any of the rest. The legs are long, brown, and stouter than those of a heron; the claws are shortish, but crooked, and of a black colour.

The Secretary Falcon is a native of the interior parts of Africa, Asia, and the Phillipine Islands.

Synonyms. Falco serpentarius. *Linn.*—Le Secrétaire, ou le Messager. *Buffon.*—Secretary Vulture. *Latham.*—Secretary. *Kerr.*—Slang-vraters, or Serpent-eater, at the Cape of Good Hope.—*Latham's Syn. vol.* i. *tab.* 2.

it would almost seem that nature had principally destined it for the purpose of confining within due bounds the race of serpents, which is very extensive in all the countries that this bird inhabits.

The mode in which it seizes these dangerous creatures is very peculiar. When it approaches them, it is always careful to carry the point of one of its wings forward, in order to parry off their venomous bites; sometimes it finds an opportunity of spurning and treading upon its antagonist, or else of taking him on its pinions and throwing him into the air. When by this proceeding it has at length wearied out its adversary, and rendered him almost senseless, it kills and swallows him at leisure without danger.

M. Le Vaillant tells us, that he was witness to an engagement between the Secretary Falcon and a serpent. The battle was obstinate, and conducted with equal address on both sides. But the serpent at length feeling the inferiority of his strength, employed, in his attempt to regain his hole, all that cunning which is attributed to the tribe; while the bird, apparently guessing his design, stopped him on a sudden and cut off his retreat, by placing herself before him at a single leap. On whatever side the reptile endeavoured to make his escape, his enemy still appeared before him. Then, uniting at once both bravery and cunning, he erected himself boldly to intimidate the bird; and, hissing dreadfully, displayed his menacing throat, inflamed eyes, and a head swoln with rage and venom.—"Sometimes this threatening appearance produced a momentary suspension of hostilities; but the bird soon returned to the charge, and, covering her body with one of her wings as a buckler, struck her enemy with the bony protuberance of the other. I saw him at last stagger and fall: the conqueror then fell upon him to dispatch him, and with one stroke of her beak laid open his skull."

At this instant M. Le Vaillant fired at and killed her. In her craw he found, on dissection, eleven tolerably large lizards; three serpents, each as long as his arm; eleven small tortoises, most of which were about two inches in diameter; and a number of locusts and other insects, several of them sufficiently whole to be worth preserving and adding to his collection. He observed too, that, in addition to this mass of food, the craw contained a sort of ball, as large as the egg of a goose, formed of the vertebræ of serpents and lizards; shells of different tortoises; and wings, claws, and shields, of different kinds of beetles. This indigestible mass, when become sufficiently large, the Secretary would doubtless have vomited up, in the manner of other birds of prey.

Dr. Solander says, he has seen one of these birds take up a snake, a small tortoise, or other reptile, in its claw, and dash it with such violence against the ground, that the creature immediately died: if, however, this did not happen to be the case, he tells us that the operation was repeated till the victim was killed; after which it was eaten.

The Secretary is easily tamed; and, when domesticated, will eat any kind of food, either dressed or raw. If well fed, it not only lives with poultry on amicable terms, but, if it sees any quarrel, will even run to part the combatants and restore order. It is true, if pinched with hunger, it will fall, without scruple, on the ducklings and chickens. But this abuse of confidence, if it may be so called, is the effect of imperious want, and the pure and simple exercise of that necessity which rigorously devotes one half of the living creation to satisfy the appetite of the rest.

Tame Secretaries were seen by M. Le Vaillant in several of the plantations of the Cape. He says they commonly lay two or three white eggs, nearly as large as those of a goose. The young remain a great while in the nest;

because, from their legs being long and slender, they cannot easily support themselves. Even at the age of four months, they may be seen to walk resting on the heel; which gives them a very awkward appearance*. But when they are seven months old, and have attained their full growth and size, they display much grace and ease in their motions, which well accord with the stately figure of the bird.

However shrewd and cunning this bird may be in its general conduct, yet M. de Buffon seems to have attributed to it a much greater degree of intelligence than it really possesses:—"When a painter (says he, quoting a letter of the Viscount de Querhoent) was employed in drawing one of the Secretary Falcons, it approached him, looked attentively upon his paper, stretched out its neck, and erected the feathers of its head, as if admiring its own figure. It often came with its wings raised, and its head projected, to observe what he was doing. It also thus approached me two or three times when I was sitting at a table, in its hut, in order to describe it." This stretching out of its head, and erection of its crest, seem, however, to have arisen from nothing more than that love which almost all domesticated birds evince of having their heads scratched. And these birds, when rendered familiar, are well known to approach every person who comes near, and to stretch out their necks by way of making known this desire.

This singular bird has not been long known, even at the Cape: but when we consider its sociable and familiar dispositions, we are disposed to think that it would be advisable to multiply the species, particularly in our colonies; for it is hardy enough to endure even European climates, where it might be serviceable in destroying not only the pernicious reptiles, but rats and mice.

* Thunburg says, that they are not to be reared without great difficulty, as they are very apt to break their legs.

The Secretary Falcons make a flat nest with twigs, not unlike that of some of the eagles, full three feet in diameter, and line it with wool and feathers. This is usually formed in some high tuft of trees; and is often so well concealed, as not easily to be discovered even by the most scrutinizing eye.—It is a very singular circumstance, that in their contests these birds always strike forward with their legs; and not, like all others, backward.

THE BEARDED EAGLE, OR LAMMER-GEYER *.

The Bearded Eagles, of which so many fabulous tales have been related, are inhabitants of the highest parts of the great chain of the Alps that separates Swisserland from Italy. They are frequently seen of immense size. One that was caught in the canton of Glarus measured, from the tip of its beak to the extremity of its tail, nearly seven feet, and eight feet and a half from tip to tip of its wings; but some have been shot that were much larger.

These birds form their nests in the clefts of rocks, inaccessible to man; and usually produce three or four young-ones at a time. They live on alpine animals, such as the chamois, white hares, marmots, kids, and particularly lambs; from which last circumstance they

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* Description. The beak is of a purplish flesh colour, and hooked only at the point; and the head and neck are covered with feathers. Beneath the throat hangs a kind of beard, composed of very narrow feathers, like hairs. The legs are covered with feathers quite to the toes, which are yellow: the claws are black. The body is blackish-brown above; and the under parts are white, with a tinge of brown.

Synonyms. Falco barbatus. *Linn. Gmel.*—Vultur barbatus. *Linn.*—Le Gypaete des Alpes. *Sonnini's Edit. of Buffon.*—Lammer-geyer. *Var.*—Vulturine Eagle. *Albin.*—Bearded Bastard-eagle. *Kerr.*

are called by the Swiss peasants *Lammer-geyer*, or Lamb-Vultures*. The Bearded Eagles seldom appear but in small parties, usually consisting of the two old birds and their young.

If common report may be credited, this rapacious bird does not confine its assaults to the brute creation, but sometimes attacks and succeeds in carrying off young children.—Gesner, on the authority of Fabricius, says, respecting it, that some peasants between Miesen and Brisa, cities in Germany, losing every day some of their cattle, which they sought for in the forests in vain, observed by chance a very large nest resting on three oaks, constructed with sticks and branches of trees, and as wide as the body of a cart. They found in this nest three young birds, already so large that their wings extended seven ells. Their legs were as thick as those of a lion; and their claws the size of a man's fingers. In the nest were found several skins of calves and sheep.

It appears to have been from one of the two varieties of this bird that are sometimes seen in Persia and other eastern countries, rather than the condur, as is generally supposed, that the fabulous stories of the *Roc* of the Arabian Tales originated; since the latter is confined to the wild districts of South America, and has never been fully ascertained to have visited the old continent.

One of these varieties also it is that Mr. Bruce describes as having seen on the highest part of the mountain of Lamalmon, not far from Gondar, the capital of Abyssinia. He says, that on account of the tuft growing beneath its beak, the inhabitants called it *Abou Duch'n*, or Father

* It is, however, to be remarked, that the Swiss peasants do not altogether confine the appellation of Lammer-geyer to this species, but sometimes extend it to other large birds of prey.

Long-beard. Mr. Bruce supposed it not only one of the greatest of the Eagle kind, but certainly one of the largest birds in the creation. From wing to wing the animal measured eight feet four inches; and from the tip of its tail to the point of its beak, when dead, four feet seven inches. It weighed twenty-two pounds, and was very full of flesh. Its legs were very short, but the thighs extremely muscular. Its eyes were remarkably small, the aperture being scarcely half an inch. The crown of the head was bald, as was also the front where the bill and skull joined.

"This noble bird (says this celebrated traveller) was not an object of any chase or pursuit, nor stood in need of any stratagem to bring him within our reach. Upon the highest top of the mountain Lamalmon, while my servants were refreshing themselves from that toilsome, rugged ascent, and enjoying the pleasure of a most delightful climate, eating their dinner in the outer air, with several large dishes of boiled goat's flesh before them, this enemy, as he turned out to be to them, suddenly appeared: he did not stoop rapidly from a height, but came flying slowly along the ground, and sat down close to the meat, within the ring the men had made round it. A great shout, or rather cry of distress, called me to the place. I saw the eagle stand for a minute, as if to recollect himself; while the servants ran for their lances and shields. I walked up as nearly to him as I had time to do. His attention was fully fixed upon the flesh. I saw him put his foot into the pan, where there was a large piece, in water, prepared for boiling; but finding the smart, which he had not expected, he withdrew it, and forsook the piece that he held.

"There were two large pieces, a leg and a shoulder, lying upon a wooden platter: into these he thrust both his claws, and carried them off; but I thought he still looked wistfully at the large piece which remained in the warm

water. Away he went slowly along the ground, as he had come. The face of the cliff over which criminals are thrown, took him from our sight. The Mahometans that drove the asses, were much alarmed, and assured me of his return. My servants, on the other hand, very unwillingly expected him, and thought he had already more than his share.

"As I had myself a desire of more intimate acquaintance with him, I loaded a rifle-gun with ball, and sat down close to the platter by the meat. It was not many minutes before he came, and a prodigious shout was raised by my attendants, "He is coming, he is coming," enough to have dismayed a less courageous animal. Whether he was not quite so hungry as at his first visit, or suspected something from my appearance, I know not; but he made a small turn, and sat down about ten yards from me, the pan with the meat being between me and him. As the field was clear before me, and I did not know but his next move might bring him opposite to some of my people, so that he might actually get the rest of the meat and make off, I shot him with the ball through the middle of his body, about two inches below the wing, so that he lay down upon the grass without a single flutter.

"Upon laying hold of his monstrous carcase, I was not a little surprised at seeing my hands covered and tinged with yellow powder or dust. On turning him upon his belly, and examining the feathers of his back, they also produced a dust, the colour of the feathers there. This dust was not in small quantities; for, upon striking the breast, the yellow powder flew in full greater quantity than from a hair-dresser's powder-puff. The feathers of the belly and breast, which were of a gold colour, did not appear to have any thing extraordinary in their formation; but the large feathers in the shoulder and wings seemed apparently to be fine tubes, which, upon pressure, scattered

this dust upon the finer part of the feather; but this was brown, the colour of the feathers of the back. Upon the side of the wing, the ribs, or hard part of the feathers, seemed to be bare, as if worn; or, I rather think, were renewing themselves, having before failed in their functions.

"What is the reason of this extraordinary provision of nature, it is not in my power to determine. As it is an unusual one, it is probably meant for a defence against the climate, in favour of the birds which live in those almost inaccessible heights of a country doomed, even in its lower parts, to several months excessive rain."

THE GOLDEN EAGLE*.

This Eagle has generally been considered by mankind, to hold the same fabulous or imaginary dominion over the birds, which has universally been attributed to the lion over quadrupeds. The Comte de Buffon, taking up the idea, is also of opinion, that they have many points of resemblance, both physical and moral. "Magnanimity (he

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* Description. The Golden Eagle is a large species, weighing twelve or fourteen pounds; measuring in length three feet, and from tip to tip of his wings seven feet and a half. The bill is deep blue, and the cere yellow. The head and neck are of a dark brown, bordered with tawny: the hind part of the head is of a bright rust-colour, and the rest of the body brown. The tail is blotched with ash-colour. The legs are yellow, and feathered to the toes, which are scaly: the claws are remarkably large, the middle one being two inches in length.

This bird is a native of Europe, and even of some of the more mountainous parts of Great Britain.

Synonyms. Falco Chrysaëtos. *Linn.*—Le Grand Aigle. *Buff.*—Orn, in Norway.—Golden Eagle. *Var.*—*Bew. Birds, p.* 5.—*Penn. Brit. Zool. vol.* i. *tab.* 16.

says) is equally conspicuous in both; they despise the small animals, and disregard their insults. It is only after a series of provocations, after being teased with the noisy or harsh notes of the raven or magpie, that the eagle determines to punish their temerity or their insolence with death. Besides, both disdain the possession of that property which is not the fruit of their own industry; rejecting with contempt the prey which is not procured by their own exertions. Both are remarkable for their temperance. This species seldom devours the whole of his game, but, like the lion, leaves the fragments and offals to the other animals. Though famished for want of prey, he disdains to feed upon carrion.

Like the lion, also, he is solitary, the inhabitant of a desert, over which he reigns supreme, excluding all the other birds from his silent domain. It is more uncommon, perhaps, to see two pairs of Eagles in the same tract of mountain, than two families of lions in the same part of the forest. They separate from each other at such wide intervals, as to afford ample range for subsistence; and esteem the value and extent of their dominion, to consist in the abundance of the prey with which it is replenished.

The eyes of the Eagle have the glare of those of the lion, and are nearly of the same colour; the claws are of the same shape; the organs of sound are equally powerful, and the cry equally terrible*.—Destined, both of them, for war and plunder, they are equally fierce, equally bold, and untractable. It is impossible to tame them, unless they be caught when in their infancy. It requires much patience and art to train a young Eagle to the chase; and

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* The voice of the lion and Eagle, notwithstanding this assertion of the Comte de Buffon, will not bear comparison with each other. The one is a deep and dreadful base; and the other a piercing treble, altogether destitute of majesty.

after he has attained to age and strength, his caprices and momentary impulses of passion, are sufficient to create suspicions and fears in his master. Authors inform us, that the Eagle was anciently used in the East for falconry; but this practice is now laid aside: he is too heavy to be carried on the hand without great fatigue; nor is he ever brought to be so tame or so gentle, as to remove all suspicions of danger. His bill and claws are crooked and formidable: his figure corresponds with his instinct: his body is robust; his legs and wings are strong; his flesh is hard; his bones are firm; his feathers stiff; his attitude bold and erect; his movements quick; his flight rapid. He rises higher in the air than any other of the winged race; and hence he was termed by the ancients the *Celestial Bird*, and was regarded in their mythology as the messenger of Jupiter. He can distinguish objects at an immense distance; but his power of smell is inferior to that of the Vulture. By means of his exquisite sight, he pursues his prey; and, when he has seized it, he checks his flight, and places it upon the ground to examine its weight before he carries it off. Though his wings are vigorous; yet, his legs being stiff, it is with difficulty he can rise, especially if he is loaded. He is able to bear away geese and cranes: he also carries off hares, young lambs, and kids. When he attacks fawns or calves, he instantly gluts himself with their blood and flesh, and afterwards transports their mangled carcases to his nest, or *aery*."

Formed for war, these birds are solitary and unsociable. They are also fierce, but not implacable; and, though not easily tamed, are certainly capable of great docility, and in some cases, especially when gently treated, of inviolable attachment. This, however, happens but rarely; as of the two the keeper is often the more savage and unrelenting. His inhuman harshness the bird sometimes suddenly and severely revenges.—A gentleman who lived in the

south of Scotland had, not many years ago, a tame Eagle; which the keeper one day injudiciously thought proper, for some petty fault, to lash with a horsewhip. About a week afterwards, the man chanced to stoop within reach of its chain; when the enraged animal, recollecting the late insult, flew in his face with so much fury and violence, that he was terribly wounded, but was luckily driven so far back by the blow, as to be out of all further danger. The screams of the Eagle alarmed the family; who found the poor man lying at some distance in a very bloody plight, equally stunned with the fright and the fall. The animal was still pacing and screaming in a manner not less threatening than majestic. It was even dreaded, whether, in so violent a rage, he might not break loose; which, indeed, fortunately perhaps for them, he did just as they withdrew, and escaped for ever.

These Eagles build their nests in elevated rocks, ruinous and solitary castles and towers, and other sequestered places. The nest is quite flat; and not hollow, like those of other birds. The male and female commonly place it between two rocks, in a dry and inaccessible situation. The same nest, it is said, serves the Eagle during life. Its form resembles that of a floor. Its basis consists of sticks about five or six feet in length, which are supported at each end; and these are covered with several layers of rushes and heath.

High from the summit of a craggy cliff,
Hung o'er the deep,—such as amazing frowns
On utmost Kilda's shore, whose lonely race
Resign the setting sun to Indian worlds,—
The royal Eagle draws his vigorous young,
Strong-pounc'd, and ardent with paternal fire;
Now, fit to raise a kingdom of their own,
He drives them from his fort, the towering seat,
For ages, of his empire.

An Eagle's nest was found in the Peak of Derbyshire, which Willughby describes in the following manner: "It was made of great sticks, resting one end on the edge of a rock, the other on a birch-tree. Upon these was a layer of rushes, and over them a layer of heath, and on the heath rushes again; upon which lay one young one, and an addle egg; and by them a lamb, a hare, and three heath-pouts. The nest was about two yards square, and had no hollow in it."

The females never lay more than two or three eggs. These they hatch in thirty days. They feed their young-ones with the slain carcases of such small animals as come in their way, as hares, lambs, or geese; and, though they are at all times formidable, they are particularly so while bringing up their offspring.

It is said that a countryman once got a comfortable subsistence for his family out of an Eagle's nest, during a summer of famine. He protracted the assiduity of the old birds beyond their usual time, by clipping the wings, and thus retarding the flight of the young ones; and tying them so as to increase their cries, which are always found to increase the dispatch of the parents in supplying their wants. It was lucky for him that the ones did not detect their plunderer, otherwise their resentment might have proved fatal.—For a peasant, not many years ago, resolved to rob an Eagle's nest, which he knew to be built in a small island in the beautiful lake of Killarney. He stripped himself for this purpose, and swam over when the old birds were gone; but, in his return, while yet up to the chin in water, the parents coming home, and missing their offspring, quickly fell on the plunderer, killed him on the spot, and rescued their young.

Thus the bold bird her helpless young attends,
From danger guards them, and from want defends;
In search of prey she wings the spacious air,
And with th' untasted food supplies her care.

Several instances have been recorded, of children being seized and carried off by Eagles to their young. In the year 1737, in the parish of Norderhougs, in Norway, a boy somewhat more than two years old, was running from the house to his parents, who were at work in the fields at no great distance, when an Eagle pounced upon and flew off with him in their sight. It was with grief and anguish that they beheld their child dragged away, but all their screams and efforts to prevent it were in vain.—Anderson, in his History of Iceland, says, that in that island children of four or five years of age have been sometimes taken away by Eagles; and Ray relates, that in one of the Orkneys, a child of a year old was seized in the talons of an Eagle, and carried above four miles to its nest. The mother, knowing the place, pursued the bird, found her child in the nest, and took it away unhurt.

The form of the Golden Eagles is extremely fibrous and muscular; but their chief strength lies in their beak, their talons, and their wings. There is scarcely any quadruped a match for them; as they are capable of giving the most terrible annoyance, without much danger to themselves. One flap of their wing has been known to strike a man dead in an instant.

They are remarkable for longevity, and for their power of sustaining abstinence from food for a great length of time. One that died at Vienna, had been in confinement above a hundred years; and one that was in the possession of a gentleman of Conway, in Caernarvonshire, was, from the neglect of his servants, kept for three weeks without any sustenance whatever.

THE OSPREY, OR FISHING EAGLE *.

The Osprey frequents large rivers, lakes, and the sea-

* Description. The length, from the point of the beak to the end of the tail, is about two feet, and the expanded wings measure

shores both of Europe and America. In the latter country, particularly, it oftentimes affords amusement to strangers. During the spring and summer months, this bird is frequently seen hovering over the rivers, or resting on the wing for several minutes at a time, without the least visible change of place. It then suddenly darts down, and plunges into the water, whence it seldom rises again without a fish in its talons. When it rises into the air, it immediately shakes off the water, which it throws around like a mist, and pursues its way towards the woods. The Bald Eagle, which, on these occasions, is generally upon the watch, instantly pursues, and, if it can overtake, endeavours to soar above it. The Osprey, solicitous for its own safety, drops the fish in alarm; the Eagle immediately pounces at this prey, and never fails to catch it before it reaches the water, leaving the Hawk to begin his work afresh.

It is somewhat remarkable, that whenever the Osprey catches a fish, it always makes a loud screaming noise; which the Eagle, if within hearing, never fails to take as a signal. Sometimes it happens, that if the Osprey is tolerably large and strong, it will contend with the Eagle for

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somewhat more than five. The wings, when closed, reach beyond the end of the tail. The head is small; and on the top is black or brown, variegated with white. The upper parts of the body, and the whole of the tail, are brown, and the belly is white. It is a singular circumstance in this bird, that the outer toe turns easily backward, so as on occasion to have toes two forward and two backward, and has a much larger claw than the inner one. This, and the peculiar roughness of the whole foot underneath, are well adapted for the securing of its prey.

SYNONYMS. Falco Haliëtos. *Linn.*—Le Balbuzzard. *Buffon.*—Bald Buzzard, or Sea Eagle. *Ray.*—Fishing Hawk. *Catesby.*—Fishing Eagle. *Montagu.*—Osprey. *Latham. Penn.*—*Bew. Birds, p.* 13.

its rightful property; and, though generally conquered in the end, a contest of this sort has been sustained for upwards of half an hour.

The Osprey usually builds its nest on the ground, among reeds; and lays three or four white eggs, rather smaller than those of a Hen. Colonel Montagu states, that he once saw the nest of this bird on the top of a chimney of a ruin, in an island of Loch Lomond in Scotland. It was large and flat, formed of sticks laid across, and lined with flags; and it rested on the sides of the chimney.

THE BLACK OR COMMON EAGLE*.

The most perpendicular and inaccessible rocks are generally selected as the habitation of the Black Eagles, from whence they occasionally descend into the plains to feed. As they are sometimes very destructive amongst lambs and other small animals, it is not unusual to lay snares and traps in order to kill them; but their sagacity is such, that they are seldom caught. They attack and devour indiscriminately every kind of bird; and when hard pressed by hunger, will feed on carrion.

Their aeries are usually formed amongst the branches of the highest trees; and one of them, which was seen in the mountains of Auvergne, is described to have measured more than five superficial feet.

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* Description. Its length is two feet ten inches; the bill is horn-coloured, and the cere reddish. The general colour of the plumage is blackish; the head and upper part of the neck, mixed with yellow. The lower half of the tail is white, with blackish spots; the other half blackish. The legs are covered with dirty white feathers: the toes are yellow, and the claws black.

Synonyms. Falco melanaëtos. *Linn.*—L'Aigle commun. *Buffon.*—Common Eagle. *Kerr.*

An Eagle of this species, which was in the possession of the Abbé Spallanzani, was so powerful, as without any difficulty, to kill dogs that were much larger than itself. When the Abbé forced one of these animals into the apartment where the Eagle was kept, the bird immediately ruffled the feathers on its head and neck, cast a dreadful look at its victim, and, taking a short flight, immediately alighted on his back. It held the neck firmly with one foot, by which the Dog was prevented from turning his head to bite, and with the other grasped one of his flanks, at the same time driving its talons into the body; and in this attitude it continued, till the dog expired with fruitless outcries and efforts.—The beak, which had been hitherto unemployed, was now used for making a small hole in the skin, which was gradually enlarged; from this the bird began to tear away and devour the flesh, and went on till he was satisfied. He never ate any skin, intestine, or bone, except very small ones, such as the ribs of cats and small dogs.

Notwithstanding its ferociousness, and violent impetuosity in attacking animals, it never gave any molestation to man. Its owner, who constantly fed it, could safely enter the apartment where the bird was kept, and behold these assaults without dread or apprehension; nor was the Eagle at all prevented from attacking the living prey he offered to it, or rendered shy by his presence.

In general when it had flesh at will, it made only one meal a day. The Abbé found, by weighing what it ate, that thirty ounces of flesh, one day with another, were fully sufficient for it.

This species is found in all quarters of the world; and in hot as well as cold climates. Poiret speaks of having encountered them in the plains of Barbary. They are also very common in several parts of Europe, in Persia, and Arabia; and also in most of the mountainous districts of America.

THE COMMON BUZZARD *.

This well-known bird is of a sedentary and indolent disposition: it will frequently continue perched for many hours successively upon a tree or eminence, from whence it darts upon such prey as comes within its reach. It feeds on birds, small quadrupeds, reptiles, and insects. Though possessed of strength, agility, and weapons to defend itself, it is cowardly, inactive, and slothful. It will fly from a sparrow-hawk; and, when overtaken, will suffer itself to be beaten, and even brought to the ground, without resistance.

There are few birds of the hawk species more common in this country, than the Buzzard. It breeds in large woods; and usually builds in an old crow's nest, which it enlarges, and lines in the inside with wool and other soft materials. It feeds and tends its young, which are generally two or three in number, with great assiduity. Ray affirms, that if the female be killed during the time of incubation, the male Buzzard will take the charge of them, and patiently rear them till they are able to provide for themselves.

The following anecdote, which was related by M. Fontaine, Curé de St. Pierre de Belesme, to the Comte de Buffon, will shew that the Buzzard may be so far tamed, as to

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* Description. The Buzzard is about twenty inches in length, and in breadth four feet and a half. Its bill is lead-coloured. The upper parts of the body are dusky; and the lower pale, varied with brown. The wings and tail are marked with bars of a darker hue. The tail is grayish beneath, and tipped with a dusky white. The legs are yellowish, and the claws black.

Synonyms. Falco Buteo. *Linn.*—La Buse. *Buff.*—Buzzard. *Penn.*—Common Buzzard. *Lath.*—*Bew. Birds, p.* 15.—*Penn. Brit. Zool. vol.* i. *tab.* 25.

be rendered a faithful domestic. "In 1763, (says this gentleman,) a Buzzard was brought to me, that had been taken in a snare. It was at first extremely wild and unpromising. I undertook to tame it; and I succeeded, by leaving it to fast, and constraining it to come and eat out of my hand. By pursuing this plan, I brought it to be very familiar: and, after having shut it up about six weeks, I began to allow it a little liberty, taking the precaution, however, to tie both pinions of its wings. In this condition it walked out into my garden, and returned when I called it to feed. After some time, when I judged that I could trust to its fidelity, I removed the ligatures; and fastened a small bell, an inch and a half in diameter, above its talon, and also attached to the breast a bit of copper, having my name engraved on it. I then gave it entire liberty: which it soon abused; for it took wing, and flew as far as the forest of Belesme. I gave it up for lost; but four hours after, I saw it rush into my hall, which was open, pursued by five other Buzzards, who had constrained it to seek again its asylum.

"After this adventure, it preserved its fidelity to me, coming every night to sleep on my window: it grew so familiar, as to seem to take singular pleasure in my company. It attended constantly at dinner; sat on a corner of the table, and very often caressed me with its head and bill, emitting a weak, sharp cry, which, however, it sometimes softened. It is true that I alone had this privilege. It one day followed me when I was on horseback, more than two leagues, flying above my head.

"It had an aversion both to dogs and cats; nor was it in the least afraid of them; it had often tough battles with them, but always came off victorious. I had four very strong cats, which I collected into my garden with my Buzzard: I threw to them a bit of raw flesh; the nimblest cat seized it; the rest pursued; but the bird darted upon

her body, bit her ears with his bill, and squeezed her sides with his talons so forcibly, that the cat was obliged to relinquish her prize. Often another cat snatched it the instant it dropped; but she suffered the same treatment, till the Buzzard got entire possession of the plunder. He was so dexterous in his defence, that when he perceived himself assailed at once by the four cats, he took wing, and uttered a cry of exultation. At last, the cats, chagrined with their repeated disappointment, would no longer contend.

"This Buzzard had a singular antipathy; he would not suffer a red cap on the head of any of the peasants; and so alert was he in whipping it off, that they found their heads bare without knowing what was become of their caps. He also snatched away wigs, without doing any injury; and he carried these caps and wigs to the tallest tree in a neighbouring park, which was the ordinary deposit of his booty.

"He would suffer no other birds of prey to enter his domain; he attacked them boldly, and put them to flight. He did no mischief in my court-yard; and the poultry, which at first dreaded him, grew insensibly reconciled to him. The chickens and ducklings received not the least harsh usage; and yet he bathed among the latter. But, what is singular, he was not gentle to my neighbours' poultry; and I was often obliged to publish that I would pay for the damages that he might occasion. However, he was frequently fired at; and, at different times, received fifteen musket-shots without suffering any fracture. But once, early in the morning, hovering over the skirts of a forest, he dared to attack a fox; and the keeper, seeing him on the shoulders of the fox, fired two shots at him: the fox was killed, and the Buzzard had his wing broken; yet, notwithstanding this fracture, he escaped from the keeper, and was lost for seven days. This man having discovered,

from the noise of the bell, that he was my bird, came next morning to inform me. I sent to make search near the spot; but the bird could not be found, nor did it return till seven days afterwards. I had been used to call him every evening with a whistle, which he did not answer for six days; but on the seventh I heard a feeble cry at a distance, which I judged to be that of my Buzzard: I repeated the whistle a second time, and heard the same cry. I went to the place from whence the sound came; and, at last, found my poor Buzzard with his wing broken. He had travelled more than half a league on foot to regain his asylum, from which he was then distant about a hundred and twenty paces. Though he was extremely reduced, he gave me many caresses. It was six weeks before he was recruited, and his wounds were healed; after which, he began to fly as before, and follow his old habits for about a year; he then disappeared for ever."

THE GENTIL FALCON*.

When, in ancient times, the sport of falconry was in high repute, this was one of the species of Falcons which was employed. It is a spirited and dauntless bird; and

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* Description. The Gentil Falcon measures about two feet in length. His beak is of a red colour, with a yellow cere. The head and back part of the neck are rusty, with oblong black spots. The back and wings are brown, and each feather of the wings is tipped with rust colour. The quills are dusky; the outer webs barred with black, and the lower parts of the inner ones marked with white. The wings reach to the middle of the tail, which is banded with black and ash colour, and tipped with white. The legs are short and yellow, and the claws black.

Synonyms. Falco gentilis. *Linnæus.*—Gentil Falcon. *Latham. Pennant.*—*Penn. Brit. Zool.* i. *tab.* 21, 22.

in a wild state is a native of the rocks of Caernarvonshire, and the Highlands of Scotland.

In Syria there is a small variety of the Gentil Falcon, which the inhabitants denominate Shaheen; and which is of so fierce and courageous a disposition, that it will attack any bird, however large or powerful, which presents itself. "Were there not (says Dr. Russel, in his account of Aleppo) several gentlemen now in England to bear witness to the fact, I should hardly venture to assert that, with this bird, which is about the size of a pigeon, the inhabitants sometimes take large eagles. The hawk, in former times, was taught to seize the eagle under the pinion, and thus depriving him of the use of one wing, both birds fell to the ground together; but I am informed the present mode is to teach the hawk to fix on the back, between the wings, which has the same effect, only that the bird tumbling down more slowly, the falconer has more time to come to his hawk's assistance; but in either case, if he be not very expeditious, the Falcon is inevitably destroyed.

"I never saw the Shaheen fly at eagles, that sport being disused in my time; but I have often seen him take herons and storks. The hawk, when thrown off, flies for some time, in a horizontal line, not six feet from the ground, then mounting perpendicularly, with astonishing swiftness, he seizes his prey under the wing, and both together come tumbling to the ground. If the falconer is not, however, very expeditious, the game soon disengages itself."

THE HEN HARRIER *.

It is about forests, heaths, and other retired places, especially in the neighbourhood of marshy grounds, where

* Description. The Hen Harrier is about seventeen inches long, and three feet wide. Its bill is black, and cere yellow. The

they destroy vast numbers of snipes, that these birds are usually seen. They sail with great regularity all over a piece of marsh, till they discover their prey, when they immediately pounce upon and seize them.

A gentleman who was shooting in Hampshire, by chance sprung a pheasant in a wheat-stubble, and shot at it; when, notwithstanding the report of the gun, it was pursued by a Hen Harrier, but escaped into some covert. He then sprung a second, and a third, in the same field, and these likewise got away; the hawk hovering round him all the while he was beating the field, conscious, no doubt, of the game that lurked in the stubble. Hence we may conclude, that this bird of prey was rendered very daring and bold by hunger, and that hawks are not always in a condition to strike their game. We may further observe, that they cannot pounce on their quarry when it is on the ground, where it might be able to make a stout resistance; since so large a fowl as a pheasant could not but be visible to the piercing eye of a hawk, when hovering over it. Hence that propensity in game to cowering and squatting till they are almost trod on; which doubtless was intended as a mode of security, though it has long been rendered destructive by the invention of nets and guns.

A Hen Harrier that was shot some years ago near London, was first observed dodging round the lower parts of

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upper parts of its body are of a blueish gray: and the back of the head, the breast, belly, and thighs, white; the two former marked with dusky streaks. The two middle feathers of the tail are gray, and the outer webs of the others are of the same colour; but the inner ones are marked with alternate bars of white and rust-colour. The legs are long, slender, and yellow; and the claws black.

SYNONYMS. Falco Cyaneus. *Linn.*—L'Oiseau Saint Martin. *Buff.*—Blue Hawk. *Edwards.*.—Hen Harrier. *Var.*—*Bew. Birds*, *p.* 33.—*Penn. Brit. Zool. vol.* i. *tab.* 88.

some old trees, and now and then seeming to strike against the trunks of them with its beak or talons, but still continuing on the wing. The cause of this very singular conduct could not even be guessed, till after it was killed; when, on opening its stomach, nearly twenty small brown lizards* were found there, which it had artfully seized, by coming suddenly round upon them. They were each bitten or torn into two or three pieces.

These destructive birds may be caught by means of a trap, baited with a stuffed rabbit's skin and covered nicely over with moss.—They breed annually on the Cheviot-hills; and from a Hen Harrier and Ring Tail† having been shot on the same nest, it appears that these are not two distinct species, however different they may be in appearance, but in reality the male and female of the same.

The nests of the Hen Harrier are usually formed near the ground, amongst furze or in thickets. They are composed of sticks rudely put together, and are nearly flat. The eggs are about four in number, without spots, and of a dirty white colour.

THE SPARROW HAWK‡.

The Sparrow Hawk is a bold bird. It is the dread of the tenants of the farm-yard, making at times great havock among the young poultry of all kinds; and it will commit its depredations in the most daring manner, even

* *Lacerta agilis* of Linnæus.

† *Falco pygargus* of Linnæus.

‡ Description. The male Sparrow Hawk is about twelve, and the female fifteen, inches in length. The exterior feathers of the upper parts of the latter are brown, with dusky edges; and on the back of the head there are some whitish spots. The under parts are yellowish white, waved with light brown. The chin is streaked with

in the presence of a man. In the winter season it oftentimes makes great havock amongst the flocks of buntings and finches.

Few of the rapacious birds are so obedient and docile as this. When properly trained it is capable of great attachment; and is so far susceptible of education, that it may be taught to pursue partridges and other game. It will also pounce upon pigeons when separated from their companions.

The editor of a respectable publication, entitled the Beauties of Natural History, states, that when he was a boy he had a Sparrow-hawk that used to accompany him through the fields, catch its game, devour it at leisure, and, after all, find him out wherever he went: nor, after the first or second adventure of this kind, was he ever afraid of losing it. A peasant, however, to his great mortification, one day shot the bird for having made too free with some of his poultry. It was about as large as a wood-pigeon; and this gentleman says he has seen him fly at a turkey-cock, and, when beaten, return to the charge with undaunted intrepidity: he had also known him kill a fowl five or six times as big as himself.

The female builds her nest in hollow trees, high rocks, or lofty ruins; sometimes she is contented with the old nest of a crow. She generally lays four or five eggs.

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perpendicular lines of brown. The tail is barred with dark brown, and is white at the end. The legs are yellow, and the claws black.—The male is somewhat different. The upper part of its breast is of a dark lead-colour; the bars on this part are more numerous, and the under parts are altogether darker. In both sexes the bill is blue, and the cere yellow.

SYNONYMS. Falco Nisus. *Linn*—l'Epervier. *Buffon.*—Sparrow Hawk, *Var.*—*Bew. Birds, p.* 27.

THE CHAUNTING FALCON*.

During the breeding season the male of this species is remarkable for its song, which it utters every morning and evening, and, like the nightingale, not uncommonly all the night through. It sings out in a loud tone for more than a minute, and after an interval begins anew. During its song it is so regardless of its own safety, that any one may approach very near to it; but at other times it is very suspicious, and takes flight on the slightest alarm. Should the male be killed, the female may also be shot without difficulty: for her attachment to him is such, that she continues flying round with the most plaintive voice; and, often passing within a few yards of the gunner, it is an easy matter to kill her. But if the female happens to be shot first, the affection of her mate does not prove so romantic; for, retiring to the top of some distant tree, he is not easily approached: he does not, however, cease to sing, but becomes so wary as to fly entirely away from that neighbourhood on the least alarm.

The female forms her nest between the forks of trees, or in bushy groves. She lays four white, round eggs.—This Falcon, for its size, is a very destructive species. It preys

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* Description. This lately discovered species is about the size of the Common Falcon. The plumage is, in general, of a pale lead or dove colour, with the top of the head and the scapulars inclining to brown. The under parts of the breast are of a pearly gray, crossed with numerous gray stripes. The quills are black. The tail is wedge-shaped, the outer feathers one-third shorter than the middle ones, and the tip white. The bill and claws are black, and the cere and legs orange.

Synonyms. Falco musicus. *Daudin's Ornith.*—Le Faucon Chanteur. *Le Vaillant.*

on partridges, hares, quails, moles, rats, and other small animals.

It is a native of Caffraria, in the South of Africa, and of some of the adjacent countries.

*OF THE OWLS IN GENERAL**.

Much in the same manner as moths differ from butterflies, do these birds differ from the falcons: the Owls being nocturnal, and pursuing their prey only in the night; and the falcons flying altogether in the day-time. They feed principally on small birds and quadrupeds, and on nocturnal insects; the exuviæ and bones of which (as in the falcons) are always discharged at the mouth, in the form of small pellets. Their eyes are so constructed, that they are able to see much more distinctly in the dusk of the evening than in the broad glare of sunshine. Most animals, by the contraction and dilatation of the eye, have, in some degree, the power of shutting out or admitting light, as their necessities require: but in the Owls this property is observed in singular perfection; and in addition to this, there is an irradiation on the back of the eye, which greatly aids their vision in the obscure places that they frequent.

The head is round, and formed somewhat like that of a cat. About the eyes, the feathers are ranged as if proceeding from a common centre in the middle of the eye; and they extend in a circle to some distance. The legs are clad with down or feathers, even to the origin of the claws, which are very sharp and hooked. Three of the toes stand forward, and one backward; but the fore-toes can occa-

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* In this tribe, as in the last, the bill is hooked, but is not furnished with a cere. The nostrils are oblong, and covered with bristly feathers. The head, ears, and eyes, are very large; the tongue is cleft.

sionally be turned back, to suit either for perching or climbing, as occasion may require.

In winter, Owls retire into holes in towers and old walls, and pass that season in sleep. The number of species is about *fifty;* of which twenty are provided with long feathers, surrounding the openings of the ears, and called, from the appearance they give to the animals, *horns.*—In their general modes of life, the Owls may be looked upon as the cats of the feathered species.

THE GREAT HORNED OR EAGLE OWL*.

Although Owls are, in general, superstitiously considered by the inhabitants of most countries as birds of ill omen, and the messengers of woe; yet the Athenians alone, among the antients, seem to have been free from this popular prejudice, and to have regarded them rather with veneration than abhorrence. The present species, which is common in many parts of Greece, was even considered as a favourite bird of Minerva; and at Athens the inhabitants had a proverb, *Noctuas Athenas mittere,* "to send Owls to Athens," exactly equivalent to the one used by us, "to send coals to Newcastle."

This Owl is in size equal to some of the eagles, and inhabits inaccessible rocks and desert places, in most parts of

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* DESCRIPTION. The body of this Owl is of a tawny red colour, marked with lines and spots, elegantly varied, of black, brown, ash, and rust colour. The wings are long; and the tail is short, and marked with transverse dusky streaks. The legs are thick, of a brick-dust red, and (except in one variety) feathered to the claws, which are large, hooked, and dusky.

SYNONYMS. Strix Bubo. *Linn.*—Grand Duc. *Buffon.*—Great Owl, or Eagle Owl. *Willughby.*—Great Eared Owl. *Lath.*—*Penn. Brit. Zool. vol.* i. *tab.* 29.

Europe, Asia, and America; and is sometimes, though rarely, found in this country. Its eyes are so constructed, that it is able to see much better during the day-time than almost any other of the tribe. It has been frequently observed preying on its game of birds and the smaller quadrupeds in full day-light.

M. Cronstedt has recorded a pleasing instance of the attachment of these birds to their young. This gentleman resided several years on a farm in Sudermania, near a steep mountain, on the summit of which two Eagle Owls had their nest. One day in the month of July, a young one, having quitted the nest, was seized by some of his servants. This bird, after it was caught, was shut up in a large hen-coop; and the next morning M. Cronstedt found a young partridge lying dead before the door of the coop. He immediately concluded that this provision had been brought thither by the old Owls; which he supposed had been making search in the night-time for their lost young-one, and had been led to the place of its confinement by its cry. This proved to have been the case, by the same mark of attention being repeated for fourteen successive nights. The game which the old ones carried to it consisted principally of young partridges, for the most part newly killed, but sometimes a little spoiled. One day a moor-fowl was brought, so fresh, that it was still warm under the wings. A putrid lamb was also found, at another time, probably what had been spoiled by lying long in the nest of the old Owls; and it is supposed that they brought it merely because they had no better provision at the time.—M. Cronstedt and his servant watched at a window several nights, that they might observe, if possible, when this supply was deposited. Their plan did not succeed: but it appeared that these Owls, which are very sharp-sighted, had discovered the moment when the window was not watched; as food was found to have been deposited for the young before the coop, one night when this had been the case.

In the month of August the parents discontinued this attendance; but at that period all birds of prey abandon their young to their own exertions.—From this instance it may be readily concluded how great a quantity of game must be destroyed by a pair of these Owls during the time they employ in rearing their young. And as the edible species of forest animals repair chiefly in the evening to the fields, they are particularly exposed to the acute sight, smell, and claws, of these birds of the night *.

It is said that, sometimes, when falconers wish to lure the kite for the purpose of training the falcon, they disfigure this Owl, by fastening to it the tail of a fox. The animal, rendered thus grotesque, is let loose; and he sails slowly along, flying, as he usually does, very low. The poor kite, either curious to observe so odd an animal, or, perhaps, inquisitive to know whether it may not be eligible prey, flies after it. He approaches near, and hovers immediately over it; when the falconer, loosing a strong-winged falcon against him, seizes him at once, and drags him into captivity.

THE WHITE OR SCREECH OWL †.

Incapable of seeing their prey, or of avoiding danger sufficiently, in the full blaze of day, these birds keep con-

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* Transactions of the Philosophical Society of Stockholm.

† Description. The plumage of these Owls is very elegant. A circle of soft white feathers surrounds each of the eyes. All the upper parts of the body are of a fine pale yellow colour, variegated with white spots; and the under parts are entirely white. The legs are feathered down to the claws.

Synonyms. Strix Flammea. *Linn.*—Effrai, ou Frésaie. *Buffon.*—Common Owl. *Kerr.*—White Owl, Church Owl, Barn Owl, Howlet, Madge-howlet, Gillihowter. *Willughby.*—Hissing Owl, or Screech Owl. *Montagu.*—*Bew. Birds, p.* 51.

cealed, during this time, in some secure retreat suited to their gloomy habits, and there continue in solitude and silence.—If they venture abroad, every thing dazzles and distracts them. Legions of birds flock around them, and single them out as objects of derision and contempt. The blackbird, the thrush, the jay, the bunting, and the red-breast, all come in a crowd, and employ their little arts of insult and abuse. The smallest, the feeblest, and the most contemptible enemies of this bewildered creature are then the foremost to injure and torment him. They increase their cries and turbulence around him, flap him with their wings, and, like all cowards, are ready to exhibit their courage when they are sensible that the danger is but small. The unfortunate wanderer, not knowing where he is, whom to attack, or whither to fly, patiently sits and suffers all their indignities with the utmost stupidity. His appearance by day is enough to set the whole grove in an uproar. An aversion which the smaller birds bear to the Owl, with a temporary assurance of their own security, urge them to pursue him, whilst they encourage each other, by their mutual cries, to lend assistance in the general cause.—Bird-catchers, aware of this singular propensity, having first limed several of the outer branches of a hedge, hide themselves near it, and imitate the cry of an Owl; when instantly all the little creatures flock to the place, in hopes of their accustomed game; but, instead of meeting a stupid and dazzled antagonist, they find themselves ensnared by an artful and unrelenting foe.

This want of sight is compensated by their peculiar quickness of hearing; for the latter sense is much more acute in the Owls than in most other birds.

The White Owl generally quits its hiding place in the twilight, and takes a regular circuit round the fields, skimming along the ground in search of its food, which

consists chiefly of field-mice and small birds.—Like the rest of the tribe, it afterwards emits the bones, feathers, hair, and other indigestible parts, at the mouth, in form of small pellets. A gentleman, on digging up a decayed pollard-ash that had been frequented by Owls for many generations, found at the bottom many bushels of this refuse.—Sometimes these Owls, when they have satisfied their appetite, will, like dogs, hide the remainder of their meat. Mr. Stackhouse, of Pendarvis in Cornwall, informs me that in his pleasure-grounds he often finds shrew-mice lying in the gravel walk, dead, but with no external wound. He conjectures that they are struck by the Owls, in mistake for field-mice; and that these birds afterwards finding their error, in having destroyed animals to which they have a natural antipathy, leave them untouched. This gentleman discovered, by accident, another of the antipathies of White Owls. A pig having been newly killed, he offered a tame Owl a bit of the liver: nothing, he says, could exceed the contemptuous air with which the bird spurned it from him.

The Mongol and Kalmuc Tartars pay almost divine honours to the White Owl; for they attribute to it the preservation of Jenghis Khan, the founder of their empire. —That prince, with a small army, happened to be surprised and put to flight by his enemies. Compelled to seek concealment in a coppice, an Owl settled on the bush under which he was hidden. This circumstance induced his pursuers not to search there, since they supposed it impossible that that bird would perch where any man was concealed. The Prince escaped; and thenceforth his countrymen held it sacred, and every one wore a plume of feathers of the White Owl on his head. To this day, the Kalmucs continue the custom on all their great festivals; and some tribes have an idol, in the form of an Owl, to which they fasten the real legs of this bird.

This Owl is well known in all parts of England, from the circumstance of its frequenting churches, old houses, and uninhabited buildings; where it continues during the day, and whence, in the evening, it ranges abroad in quest of food. It received the name of Screech Owl from the singular cry which it emits during its flight. In its repose it makes a blowing kind of noise, much resembling the snoring of a man. The female forms no nest; but deposits her eggs, generally five or six in number, in the holes of decayed walls, or under the eaves of old buildings. While the young-ones are in the nest, the male and female alternately sally out in quest of food. They are seldom absent more than five minutes, when they return with the prey in their claws; but as it is necessary to shift it from thence into their bill, for the purpose of feeding their young, they always alight to do that before they enter the nest. As the offspring continue for a great length of time in the nest, and are fed even long after they are able to fly, the old birds have to supply them with many hundreds of mice: on this account they are generally considered as useful animals in the destruction of those vermin.

THE BROWN OWL *.

Few of the Owls are more rapacious than this. It resides in the woods during the day; but at the approach

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* DESCRIPTION. The Brown Owl measures somewhat more than a foot in length; and is spotted with black on the head, wings, and back. Its breast is of a pale ash-colour, with dusky, jagged, longitudinal streaks; and the circle round the eyes is ash-coloured, spotted with brown.

SYNONYMS. Strix ulula. *Linn.*—Chouette, ou Grand Chevêche. *Buffon.*—Grey Owl. *Pennant.*

of evening, when many animals, as hares, rabbits, and partridges, come out to feed, it begins to be very clamorous and active: it destroys such multitudes of these, as on calculation would appear astonishing. In the dusk of the evening, these birds approach the farmers' dwellings; and frequently enter the pigeon-houses, where they sometimes commit dreadful ravages. They also kill great quantities of mice, and skin them with as much dexterity as a cook-maid does a rabbit. They seize their prey with great fierceness; and always beginning at the head, tear it in pieces with much violence. Were they to appear abroad at any time but in the night, when all the poultry are gone to roost, the havock they would commit in the farm-yard would be prodigious. They do not devour every part of the animals they destroy: the hinder parts they generally leave untouched.

On examining a nest of these Owls that had in it two young-ones, several pieces of young rabbits, leverets, and other small animals, were found. The hen and one of the young-ones were taken away; the other was left to entice the cock, which was absent when the nest was discovered. On the following morning there were found in the nest no fewer than three young rabbits, that had been brought to this young-one by the cock during the night.—These birds are occasionally very furious and bold in defence of their young. A carpenter some years ago, passing through a field near Gloucester, was suddenly attacked by an Owl that had a nest in a tree near the path. It flew at his head; and the man struck at it with a tool that he had in his hand, but missed his blow. The enraged bird repeated the attack; and, fastening her talons in his face, lacerated him in a most shocking manner.

When these animals hoot, they inflate their throats to the size of a hen's egg. They breed in hollow trees, or

ruined buildings, laying commonly four whitish elliptical eggs. It is not difficult to catch them in traps; or they may easily be shot in the evenings, by any person who can allure them by imitating tolerably well the squeaking of a mouse.

Pies*.

OF THE SHRIKES IN GENERAL†.

Although the Shrikes have been arranged by Linnæus amongst the rapacious birds, yet, with Mr. Pennant and Dr. Latham, I am inclined to place them amongst the *Pies*. If the Shrike is to be retained in the former order, on account of its chiefly feeding upon animal food, it would be difficult to dispose properly of the kingfisher, the woodpecker, and some other genera which do the same. If we dwell on the curvature of the bill, how will this agree with the parrot kind, whose natural food is fruit? And as to the Shrike's living on other birds; whenever opportunity offers, several both of the crow tribe, and others, do the like. Their habits resemble, in a great measure, those of the Pies; as Linnæus has himself acknowledged: and although he has arranged them among the rapacious birds, he seems to consider them as holding a kind of middle place between the Pies and (on account of their smallness)

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* In all the birds of this order the bill is sharp-edged, and convex on its upper surface. The legs are short, tolerably strong, and, in some species, formed for perching (that is, with three toes forward, and one backward;) in others formed for climbing, with two toes forward and two backward; and in others for walking, that is, without any back toe.

† In these birds the bill is strong, straight at the base, and hooked or bent towards the end; and the upper mandible is notched near the tip. The base is not furnished with a cere. The tongue is jagged at the end. The outer toe is connected to the middle one as far as the first joint.

the Passerine order. They seem, however, to stand, with greater propriety, at the head of the Pies; forming there a connecting link between them and the rapacious birds.

They are inhabitants of every quarter of the world; and are found in all climates, except within the Arctic Circle.

THE GREAT OR CINEREOUS SHRIKE *.

The muscles which move the bill of this Shrike are very thick and strong; an apparatus peculiarly necessary to a species whose mode of killing its prey is so singular, and whose manner of devouring it is so extraordinary. He seizes the smaller birds by the throat, and thus strangles them; and it is probably for this reason that the Germans call him by a name signifying "*The Suffocating Angel.*" When his prey is dead, he fixes it on some thorn; and, thus spitted, tears it to pieces with his bill. Even when confined in a cage, he will often treat his food in much the same manner, by sticking it against the wires before he devours it.

In spring and summer, he imitates the voices of other birds; by way of decoying them within his reach, that he

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* DESCRIPTION. The Great Shrike, or Butcher-bird, is a native both of Europe and America; and is, in general, about ten inches in length. Its bill is black, about an inch long, and hooked at the end. The upper parts of the plumage are of a pale ash-colour; and the wings and tail are black, varied with white. The throat, breast, and belly, are of a dirty white; and the legs are black. The female differs very little in appearance from the male.

SYNONYMS. Lanius Excubitor. *Linn.*—Pie-grièche grise. *Buff.*—White Whiskey John. *Phil. Tran.*—Mattages, Wierangle, Murdering-bird, Shreek or Shrike, Night Jar, Mountain Magpie, French-Pie. *Montagu.*—Greater Butcher-bird. *Willughby.*—Great Cinereous Shrike. *Latham.*—Great Shrike. *Penn.*—*Bew. Birds, p.* 51.—*Penn. Brit. Zool.* i. *tab.* 71.

may devour them: excepting this, his natural note is the same throughout all seasons. When kept in a cage, even where he seems perfectly contented, he is always mute.

Mr. Bell, who travelled from Moscow, through Siberia to Pekin, says, that in Russia these birds are often kept tame in the houses. He had one of them given to him, which he taught to perch on a sharpened stick, fixed in the wall of his apartment. Whenever a small bird was let loose in the room, the Shrike would immediately fly from his perch, and seize it by the throat in such a manner as almost in a moment to suffocate it. He would then carry it to his perch, and spit it on the sharpened end, drawing it on, carefully and forcibly, with his bill and claws. If several birds were given him, he would use them all, one after another, in the same manner. These were so fixed, that they hung by the neck till he had leisure to devour them. This uncommon practice seems necessary to these birds, as an equivalent for the want of strength in their claws to tear their food to pieces. From this they derive their title of *Butcher-birds*.

In America, the Great Shrike has been observed to adopt an odd stratagem, for the apparent purpose of decoying its prey. A gentleman there, accidentally observing that several grasshoppers were stuck upon the sharp thorny branches of the trees, inquired the cause of the phænomenon; and was informed that they were thus spitted by this bird. On further inquiry he was led to suppose, that this was an instinctive stratagem adopted by the Great Shrike, in order to decoy the smaller birds, which feed on insects, into a situation from whence he could dart on and seize them. He is called in America *Nine-killer*, from the supposition that he sticks up nine grasshoppers in succession. That the insects are placed there as food to tempt other birds, is said to appear from their being frequently left untouched for a considerable length of time.

The female forms her nest of heath and moss, lining it with wool and gossamer. She lays six eggs; which are about as big as those of a thrush, and of a dull olive-green, spotted at the end with black.—These birds are supposed to live to the age of five or six years; and they are much valued by husbandmen, on the supposition that they destroy rats, mice, and other vermin. They inhabit only mountainous wilds, among furze and unfrequented thickets, and are rarely found in the cultivated parts of our island.

THE TYRANT SHRIKE *.

The dauntless courage of this interesting little creature, is very remarkable. It is stated that he will pursue, and is able to put to flight, all kinds of birds that approach his station; from the smallest to the largest, none escaping his fury: "nor did I ever see (says Catesby in his account of South Carolina) any that dared to oppose him while flying; for he does not offer to attack them when sitting. I have seen one of them fix on the back of an eagle, and persecute him so, that he has turned on his back, and into various postures in the air, in order to get rid of him; and at last was forced to alight on the top of the next tree, from whence he dared not to move till the little Tyrant was tired, or thought fit to leave him. This is the constant practice of the cock, while the hen is brooding. He sits on

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* Description. This bird is about the size of a thrush. The bill is of a blackish brown colour, and furnished with bristles at the base. The upper parts of the plumage are of a lead colour, the under parts are white, and the breast inclines to ash-colour. The tail is brown, and the legs are dark brown.

It is an inhabitant of Carolina.

Synonyms. Lanius Tyrannus. *Linn.*—Gobe-mouche de la Caroline. *Buffon.*—Carolina Tyrant. *Catesby.*

the top of a bush, or small tree, not far from her nest, near which, if any small birds approach, he drives them away; but the great ones, as crows, hawks, and eagles, he will not suffer to come within a quarter of a mile of him without attacking them. These birds have only a chattering note, which they utter with great vehemence all the time they are fighting. When their young ones are flown, they are as peaceable as other birds.

From authority so deservedly great as that of Catesby, we cannot but feel it unpleasant in any manner to dissent; but by a letter lately received by Dr. Latham, from Mr. Abbot, of Georgia, observations seem to have been made somewhat different from the above:—"A Tyrant Shrike (he says) having built its nest on the outside of a large lofty pine, I was one day considering how I could procure the eggs; when, viewing the nest, I perceived a crow alight on the branch, break and suck the eggs, and displace the nest, appearing all the while unconcerned, notwithstanding both the cock and hen continued flying at and striking him with their bills all the while; but as soon as the crow had completed the robbery, he departed.

The eggs are flesh-coloured, and prettily marked at the larger end with dark pink and a few black spots.

OF THE PARROT TRIBE IN GENERAL.*

The Parrots are natives chiefly of tropical regions, where they live for the most part on fruit and seeds; though they

* This most extensive tribe is remarkably distinct from all others. The beak is hooked all the way from the base, and the upper mandible is moveable. The nostrils are round; and placed in the base of the bill, which in some species is furnished with a cere. The tongue is broad and blunt; the head large, and the crown flat. The legs are short, with two toes placed before and two behind, for the purpose of climbing; at which these birds are very expert.

will occasionally, when kept in a cage, eat both flesh and fish. They are gregarious, and excessively noisy and clamorous; yet, though they associate in vast multitudes, they live chiefly in pairs of one male and a female. The place they hold among the birds seems to be exactly that which the apes and monkies occupy among the quadrupeds; for, like these, they are very numerous, imitative, and mischievous. They breed in the hollows of trees, like the owls. It is said that the male and female sit alternately upon the eggs. In Europe, they have sometimes been known to lay eggs; but they seldom sit upon them in these cool climates.

The toes of Parrots are sufficiently flexible to answer every purpose of hands, for holding their food, or carrying it to their mouths. In climbing, they always use their bill to assist the feet. They are, in general, very long-lived.

In a domestic state they are exceedingly docile, and very imitative of sounds; most of the species being able to counterfeit even the human voice, and to articulate words with great distinctness: but their natural voice is a loud, harsh, and unpleasant scream. Alexander the Great is supposed to have been the first who introduced Parrots into Europe.

THE BRASILIAN GREEN MACAW *.

This Macaw, a native of Jamaica, Guiana, and the Brasils, is as beautiful as it is rare; and it is still more interesting, from its social and gentle disposition. It soon becomes familiar with persons whom it sees frequently, and

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* DESCRIPTION. The length of this bird is about 17 inches. Its bill is black; and on the cheeks there is a bare white patch, marked with black lines, in which the eyes are placed. The general colour of the plumage is green. The forehead is of a chesnut purple; and

is pleased in receiving and repaying their caresses. But it has an aversion to strangers; and particularly to children, flying at, and sometimes attacking them with great fury.

It is exceedingly jealous: it becomes enraged at seeing a young child sharing its mistress's caresses and favours; it tries to dart at the infant; but, as its flight is short and laborious, it can only exhibit its displeasure by gestures and restless movements, and continues to be tormented by these fits till she leaves the child, and takes the bird on her finger. It is then overjoyed, murmurs satisfaction, and sometimes makes a noise exactly like the laugh of an old person. Nor can it bear the company of other Parrots; and if one be lodged in the same room, it seems to enjoy no comfort.

It eats almost every article of human food. It is particularly fond of bread, beef, fried fish, pastry, and sugar. It cracks nuts with its bill, and picks the kernels out dexterously with its claws. It does not chew the soft fruits; but sucks them, by pressing its tongue against the upper mandible: and the harder sorts of food, such as bread and pastry, it bruises or chews, by pressing the tip of the lower mandible upon the most hollow part of the upper.

Like all the other Parrots, the Green Macaw uses its claws with great dexterity; it bends forward the hinder toe to lay hold of the fruits and other things which are given it, and to carry them to its bill. The Parrots, there-

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the crown is blue, which colour blends itself with the green as it passes backwards. On the lower part of the thighs the feathers are red; and the wings are, in different parts, crimson, blue, and black. The tail is green above, near the ends blue, and beneath of a dull red. The legs are brown, and the claws black.

SYNONYMS. Psittacus Severus. *Linn.*—Ara Verd. *Buffon.*—Maracana. *Willughby.*—Brasilian Green Macaw. *Latham.*

fore, employ their toes, nearly in the manner as the squirrels and monkies do their fore-paws; they also cling and hang by them. There is another habit common to the Parrots: they never climb or creep without fastening by the bill; with this they begin, and they use their feet only as secondary instruments of motion.

THE GUINEA OR LITTLE RED-HEADED PARROT.

In size but little larger than the lark, and, in brilliancy of plumage, exceeded by few of its tribe, this pleasing bird claims our greatest admiration. In a native state it is found amidst the forests of Guinea, and also in Ethiopia, Java, and the East Indies, where immense flocks of them are seen. In those countries they often commit as much devastation amongst the corn and fruits, as sparrows do in Europe.

The trading vessels from these countries seldom fail to bring away with them considerable numbers of these birds in cages; but they are so extremely tender, that most of them die in their passage to our colder climates. It has also been observed, that the firing of a vessel's great guns is fatal to many of them, which drop down dead from fear. Although very imitative of the manners of other birds, it is a difficult thing to teach them to articulate words. Some have attained this art, but the instances are rare.

They are exceedingly kind and affectionate towards

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* Description. The general colour of the Guinea Parrot is green; its bill, chin, and forehead are red; and the rump is blue.

Synonyms. Psittacus Pullarius. *Linn.*—Perruche à tête rouge de Guinée; Moineau de Guinée. *Buff.*—Little Red-headed Parrot, or Guinea Sparrow. *Edw.*—Red-headed Guinea Parrakeet. *Lath.*—Ethiopian Parrot. *Kerr.*

each other; and it is observed that the male generally perches on the right side of the female. She seldom attempts to eat before him.

A male and female of this species were lodged together in a large square cage. The vessel which held their food was placed at the bottom. The male usually sat on the same perch with the female, and close beside her. Whenever one descended for food, the other always followed; and when their hunger was satisfied, they returned together to the highest perch of the cage. They passed four years together in this state of confinement; and from their mutual attentions and satisfaction, it was evident that a strong affection for each other had been excited. At the end of this period the female fell into a state of languor, which had every symptom of old age; her legs swelled, and knots appeared upon them, as if the disease had been of the nature of the gout. It was no longer possible for her to descend and take her food as formerly; but the male assiduously brought it to her, carrying it in his bill, and delivering it into hers. He continued to feed her in this manner, with the utmost vigilance, for four entire months. The infirmities of his mate, however, increased every day; and at length she became no longer able to sit upon the perch: she remained now crouched at the bottom, and from time to time made a few useless efforts to regain the lower perch; while the male, who remained close by her, seconded these her feeble attempts with all his power. Sometimes he seized with his bill the upper part of her wing, to try to draw her up to him; sometimes he took hold of her bill, and attempted to raise her up, repeating his efforts for that purpose several times. His countenance, his gestures, his continual solicitude; every thing, in short, indicated in this affectionate bird, an ardent desire to aid the weakness of his companion, and to alleviate her sufferings. But the scene became still more inte-

resting when the female was on the point of expiring. Her unfortunate partner went round and round her without ceasing; he redoubled his assiduities and his tender cares: he attempted to open her bill, in order to give her some nourishment; his emotion every instant increased; he went to her, and returned with the most agitated air, and with the utmost inquietude: at intervals he uttered the most plaintive cries; at other times, with his eyes fixed upon her, he preserved a sorrowful silence. His faithful companion at length expired: he languished from that time, and survived her only a few months.

THE COMMON ASH-COLOURED PARROT*.

This well known species is that which is now most commonly brought into Europe. It is superior to most others, both in the facility, and the eagerness with which it imitates the human voice: it listens with attention, and strives to repeat; it dwells constantly on some syllables which it has heard, and seeks to surpass every voice by the loudness of its own. We are often surprised by its repeating words or sounds which were never taught it, and which it

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* Description. This Parrot is somewhat larger than a pigeon; and, including the tail, measures about twenty inches in length. The bill is black; the cere, and the skin round the eyes, are mealy and white. Its plumage is chiefly ash-coloured: the rump and lower part of the belly are hoary, with ash-coloured edges: the feathers on the head, neck, and under parts, are hoary on their edges. The tail is of a bright red colour, having the shafts of the feathers blackish. The legs are ash-coloured, and the claws blackish.

It is a native of Guinea, and of several of the inland parts of Africa.

Synonyms. Psittacus Erithacus. *Linn.*—Perroquet Cendré, ou Jaco. *Buff.*—Hoary Parrot. *Kerr.*—Ash-coloured, and Red Parrot. *Edwards.*

MAHARAJA SERFOGI'S SARASW

could scarcely be supposed to have noticed. It seems to prescribe to itself tasks, and tries every day to retain its lesson. This engages its attention even in sleep; and, according to Marcgrave, it prattles in its dreams. Its memory, if early cultivated, becomes sometimes astonishing. Rhodiginus mentions a Parrot which could recite correctly the whole of the Apostles' Creed.

A Parrot which Colonel O'Kelly bought for a hundred guineas at Bristol, not only repeated a great number of sentences, but answered many questions: it was also able to whistle a variety of tunes. It beat time with all the appearance of science; and so accurate was its judgment, that, if by chance it mistook a note, it would revert to the bar where the mistake was made, correct itself, and, still beating regular time, go through the whole with wonderful exactness.—Its death was thus announced in the General Evening Post for the ninth of October, 1802. "A few days ago died, in Half-moon Street, Piccadilly, the celebrated Parrot of Colonel O'Kelly. This singular bird sang a number of songs in perfect time and tune. She could express her wants articulately, and give her orders in a manner approaching nearly to rationality. Her age was not known; it was, however, more than thirty years, for previously to that period, Mr. O'Kelly bought her at Bristol for a hundred guineas. The Colonel was repeatedly offered five hundred guineas a-year for the bird, by persons who wished to make a public exhibition of her; but this, out of tenderness to the favourite, he constantly refused. The bird was dissected by Dr. Kennedy and Mr. Brooke; and the muscles of the larynx, which regulate the voice, were found, from the effect of practice, to be uncommonly strong."

The sister of the Comte de Buffon had a Parrot of this species which would frequently talk to himself, and seem to fancy that some one addressed him. He often asked for his

paw, and answered by holding it up. Though he liked to hear the voice of children, he appeared to have an antipathy to them; he pursued them, and bit them till he drew blood. He had also his objects of attachment; and though his choice was not very nice, it was constant. He was excessively fond of the cook-maid; followed her every where, sought for, and seldom missed finding her. If she had been some time out of his sight, the bird climbed with his bill and claws to her shoulders, and lavished on her his caresses. His fondness had all the marks of close and warm friendship. The girl happened to have a very sore finger, which was tedious in healing, and so painful as to make her scream. While she uttered her moans, the Parrot never left her chamber. The first thing he did every day, was to pay her a visit; and this tender condolence lasted the whole time of the cure, when he again returned to his former calm and settled attachment. Yet this strong predilection for the girl seems to have been more directed to her office in the kitchen, than to her person; for, when another cook-maid succeeded her, the Parrot showed the same degree of fondness to the new-comer, the very first day.

These Parrots not only imitate discourse, but also mimic gestures and actions. Scaliger saw one that performed the dance of the Savoyards, at the same time that it repeated their song. The one last mentioned, was fond of hearing a person sing; and when he saw him dance, he also tried to caper, but with the worst grace imaginable, holding in his toes, and tumbling back in a most clumsy manner.

The society which the Parrot forms with man is, from its use of language, much more intimate and pleasing than what the monkey can claim from its antic imitation of our gestures and actions. It highly diverts and amuses us;

in solitude it is company; the bird takes part in conversation, it laughs, it breathes tender expressions, or mimics grave discourse; and its words, uttered indiscriminately, please by their incongruity, and sometimes excite surprise by their aptnesss. Willughby tells us of a Parrot, which, when a person said to it, "Laugh, Poll, laugh," laughed accordingly, and the instant after screamed out, "What a fool, to make me laugh!" Another, which had grown old with its master, shared with him the infirmities of age. Being accustomed to hear scarcely any thing but the words, "I am sick;" when a person asked it, "How d'ye do, Poll? how d'ye do?" "I am sick," it replied in a doleful tone, stretching itself along, "I am sick."

Goldsmith says, that a Parrot belonging to King Henry VII. from having been kept in a room next the Thames, in his palace at Westminster, had learned to repeat many sentences from the boatmen and passengers. One day, sporting on its perch, it unluckily fell into the water. The bird had no sooner discovered its situation, than it called out aloud, "A boat! twenty pounds for a boat!" A waterman happening to be near the place where the Parrot was floating, immediately took it up, and restored it to the king; demanding, as the bird was a favourite, that he should be paid the reward that it had called out. This was refused; but it was agreed that, as the Parrot had offered a reward, the man should again refer to its determination for the sum he was to receive—"Give the knave a groat," the bird screamed aloud, the instant the reference was made.

Mr. Locke, in his Essay on the Human Understanding, has related an anecdote concerning a Parrot, of which, however incredible it may appear to some, he seems to have had so much evidence, as at least to have believed it

himself *. The story is this: During the government of Prince Maurice in Brasil, he had heard of an old Parrot that was much celebrated for answering like a rational creature many of the common questions that were put to it. It was at a great distance; but so much had been said about it, that his curiosity was roused, and he directed it to be sent for. When it was introduced into the room where the Prince was sitting in company with several Dutchmen, it immediately exclaimed, in the Brasilian language, "What a company of white men are here!" They asked it, "Who is that man?" (pointing to the Prince:) the Parrot answered, "Some general or other." When the attendants carried it up to him, he asked it, through the medium of an interpreter, (for he was ignorant of its language,) "From whence do you come?" The Parrot answered, "From Marignan." The Prince asked, "To whom do you belong?" It answered, "To a Portuguese." He asked again, "What do you do there?" It answered, "I look after chickens." The Prince, laughing, exclaimed, "You look after chickens!" The Parrot in answer said, "Yes, I; and I know well enough how to do it;" clucking at the same time, in imitation of the noise made by the hen to call together her young.

This account came directly from the Prince to the above author: he said, that though the Parrot spoke in a language he did not understand, yet he could not be deceived, for he had in the room both a Dutchman who spoke Brasilian, and a Brasilian who spoke Dutch: that he asked them separately and privately, and both agreed very exactly in giving him the Parrot's discourse. If the story is devoid of foundation, the Prince must have been deceived, for there is not the least doubt that he believed it.

* It is taken from a writer of some celebrity; the author of Memoirs of what passed in Christendom, from 1672 to 1679.

The females of this species lay their eggs, which do not exceed two, in the hollows of trees; and there is no way of getting at their young, except by cutting down and cleaving the trees.

THE YELLOW-WINGED PARROT*.

We know nothing respecting the habits of this bird in a state of nature, but Father Bougot, who had one of them for some time in his possession, communicated to the Comte de Buffon, the following account of its manners and disposition in a tame state:—

"It is (he says) extremely susceptible of attachment to its master; it is fond of him, but requires frequent caresses; and seems disconsolate if neglected, and vindictive if provoked. It has fits of obstinacy; it bites during its ill humour, and immediately laughs, exulting in its mischief. Correction and rigorous treatment only harden it; gentle usage alone succeeds in mollifying its temper.

The inclination to gnaw whatever it can reach, is very

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* Description. The length of the Yellow-winged Parrot is about thirteen inches. The bill is whitish, and the cere hoary. The general colour of the body is green; and the feathers on the hind part of the neck and on the back, have black margins. The forehead is of a whitish ash-colour; and the top of the head, cheeks, throat, and fore part of the neck, are yellow: the hind head is yellow-green. The thighs and the ridges of the wings are yellow: the remainder of the wings are, in different parts, red, yellow, and green, with the greater quills black. The four middle tail-feathers are green, and yellowish near the end; the others are partly red and partly green. The legs are hoary, and the claws ash-coloured.

It is a native of South America.

Synonyms. Psittacus Ochropterus. *Linn.*—Crick à tête et gorge jaunes. *Buff.*—Yellow-headed Creature. *Bancroft.*—Yellow-winged Parrot. *Latham.*

destructive in its effects; it cuts the cloth of the furniture, splits the wood of the chairs, and tears paper, pens, &c. And if it be removed from the spot, its proneness to contradiction will instantly hurry it back. But this mischievous bent is counterbalanced by agreeable qualities, for it remembers readily what it is taught to say. Before articulating it claps its wings and plays on its roost: in the cage it becomes dejected, and continues silent; and never prattles well except when it enjoys liberty.

In its cheerful days it is affectionate, receives and returns caresses, and listens and obeys; though a peevish fit often interrupts the harmony. It seems affected by the change of weather, and becomes silent; the way to reanimate it is to sing beside it, and it then strives, by its noisy screams, to surpass the voice which excites it. It is fond of children; in which respect it differs from most other Parrots. It contracts a predilection for some of them, and suffers them to handle and carry it; it caresses them, and will bite ferociously any person who then attempts to touch them. If its favourite children leave it, it is unhappy, follows, and calls loudly after them. During the time of moulting it is much reduced, and seems to endure great pain; and this state lasts for nearly three months."

The power of imitating exactly articulate discourse, implies in the Parrot a very peculiar and perfect structure of organ; and the accuracy of its memory (though independent of understanding) manifests a closeness of attention, and a strength of mechanical recollection, that no other bird possesses in so high a degree. Accordingly, all the naturalists have remarked the singular form of its bill, its tongue, and its head. Its bill, round on the outside and hollow within, has, in some measure, the capacity of a mouth, and allows the tongue to play freely: and the sound, striking against the circular border of the lower

mandible, is there modified as on a row of teeth, while the concavity of the upper mandible reflects it like a palate; and hence the animal does not utter a whistling sound, but a full articulation. The tongue, which modulates all sounds, is proportionably larger than in man; and would be more voluble, were it not harder than flesh, and invested with a strong horny membrane.

From the peculiar structure of the upper mandible of its bill, the Parrot has a power, which no other birds have, of chewing its food. Its bill is like a hand, which throws the food into the gizzard; or an arm, which splits or tears it. The Parrot seizes its food sideways, and gnaws it deliberately. The lower mandible has little motion, but that from right to left is most perceptible; and this is often performed when the bird is not eating, whence some persons have supposed it to ruminate. In such cases, however, the bird may be only whetting the edge of this mandible, with which it cuts and bites its aliment.

*OF THE TOUCANS IN GENERAL**.

These birds are all natives of the hotter parts of South America, where they feed on fruits. They are very noisy, and are generally seen in small flocks of eight or ten in number: they are continually moving from place to place in quest of food, going northward or southward as the fruits ripen. They are easily tamed if brought up young, and, in this state, are very familiar. They breed in the

* The beaks of all the Toucans are enormously large, and convex; they are bent at the end, hollow, very light, and jagged at the edges. The nostrils are small and round, placed close to the head. The tongue is long, narrow, and feathered at the edges. The feet, adapted for climbing, have the toes placed two forwards and two backwards.

hollows of trees, frequently in places deserted by the woodpeckers; and the female lays two eggs. It is probable that they have more than one brood in the year.

THE RED-BELLIED TOUCAN *.

In several parts of South America these birds have the name of Preacher Toucan; from the circumstance of one of the flock being always perched at the top of a tree, above its companions, while they are asleep. This makes a continued noise, resembling ill-articulated sounds, moving its head during the whole time to the right and left, in order, it is said, to deter birds of prey from seizing on them.

They feed chiefly on fruits. The females build their nests in the holes of trees; and no bird better secures its offspring from external injury than this. It has not only birds, men, and serpents to guard against; but a numerous train of monkies, which are more prying, mischievous, and hungry, than all the rest. The Toucan, however, sits in its

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* Description. This Toucan, which is a native of Guiana and Brasil, is about twenty inches in length. The bill is six inches long, and nearly two inches thick at the base; it is of a yellowish green colour, reddish at the tip. The nostrils are at the base of the bill; but are not, as in some of the species, covered with feathers. The principal upper parts of the body, and the throat and neck, are of a glossy black, with a tinge of green; the lower part of the back, the rump, upper part of the tail, and small feathers of the wings, are the same, with a cast of ash-colour. The breast is of a fine orange. The belly, sides, thighs, and the short feathers of the tail, are bright red: the remainder of the tail is of a greenish black, tipped with red. The legs and claws are black.

Synonyms. Ramphastos Picatus. *Linn.*—Toucan à Ventre Rouge. *Buff.*—Preacher Toucan. *Latham.*—Toucan, or Brasilian Pye. *Will.*—Red-bellied Toucan. *Kerr.*

hole, defending the entrance with its great beak; and if the monkey ventures to offer a visit of curiosity, the Toucan gives him such a welcome, that he is soon glad to escape with safety *.

The Red-bellied Toucans are easily tamed, and, in that state, will eat of almost any thing that is offered to them. Pozzo, who bred up one of these birds, and had it perfectly domesticated, informs us, that it leaped up and down, wagged its tail, and cried with a voice resembling that of a magpie. It fed upon the same things as Parrots: but was most greedy of grapes; which, being plucked off one by one, and thrown to it, it would with great dexterity catch in the air before they fell to the ground. Its bill, he adds, was hollow, and on that account very light, so that the bird had but little strength in this apparently formidable weapon; nor could it peck or strike smartly with it. But its tongue seemed to assist the efforts of this unwieldy machine: it was long, thin, and flat, not much unlike one of the feathers on the neck of a Dunghill Cock; this the bird moved up and down, and often extended five or six inches from the bill. It was of a flesh-colour, and very remarkably fringed on each side with small filaments.

It is probable that this long tongue has greater strength than the thin hollow beak that contains it; and that the beak is only a kind of sheath for this peculiar instrument,

* There appears to be some doubt as to the real strength of the beak of the Toucan. This assertion of M. de Buffon seems to contradict what he has before said of the weakness of this enormous and apparently disproportionate member. Willughby, p. 129, says, that notwithstanding its extreme lightness, "yet it is of a bony substance: and therefore it is not to be wondered that, dexterously used, it should by many strokes pierce a tree; having, perchance, the instinct to choose a rotten one." It is from this writer that Buffon has derived the latter part of the above account.

used by the Toucan in making its nest, and in obtaining its provision.

These birds are stated to be in great request in South America; both from the delicacy of their flesh, and on account of the beauty of their plumage, particularly the feathers of the breast. The skin of this part the Indians pluck off, and, when dry, glue to their cheeks: they consider these an irresistible addition to their beauty.

*OF THE HORNBILLS IN GENERAL**.

The animals of this, as well as of the last tribe, have all singularly disproportioned bills. Those of the present tribe are bent, jagged at the edges, and have frequently a protuberance, somewhat resembling another bill, on the upper mandible.

These birds seem to hold the same place on the old continent, as the toucans do on the new; and probably the same food is common to both. In confinement, however, these are said to eat both flesh and fish.

THE MALABAR HORNBILL†.

In a wild state these very extraordinary birds inhabit the great woods of Malabar and the East Indies, where they usually roost on the highest and most inaccessible

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* The nostrils of these birds are small, round, and situated behind the base of the bill. The tongue is small and short. The legs are scaly: the toes placed three forward, and one backward; the middle one is connected to the outermost, as far as the third joint, and to the innermost, as far as the first.

† DESCRIPTION. This bird is about two feet six inches long, and in bulk somewhat bigger than a crow. The bill is more than five inches in length, having on its upper part a protuberance rounded at the top, reaching two-thirds of its length, and tending to a sharp

trees, and, in preference, upon the dead and withered branches. The females form their nests in the worm-eaten holes of the trunks, and generally lay four or five dingy white eggs. The young-ones, when first produced, are completely naked, and, for some time, the protuberance on their bills is not more than two or three lines in depth. This, by degrees, increases, but does not attain its full growth until the birds are two years old. At this period also it is that their plumage assumes its proper colours.

The protuberance upon the bill is frequently remarked to be injured by the use to which the birds apply it, in beating the branches of trees for the purpose of detaching the bark, in order to discover insects, the larvæ of moths, and butterflies; and even small lizards, which take refuge there, and on which they feed. Hence it appears, that these birds are not, as is generally supposed, altogether frugivorous, but that, at least in a state of liberty, they are in some degree birds of prey.

In the island of Ceylon they are in great request by the inhabitants, who carefully rear them in a domestic state; from the circumstance of their propensity to chase and devour mice and other vermin, of which they clear the houses with as much address as cats.

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edge in front: this extends beyond the eyes, and in the fore-part is black. The base and edges of both mandibles, as well as a small portion of the upper part, are also black: the general colour of both of these is a dingy yellow. The plumage is in general black, some of the feathers inclining, on their margins, to green; but the lower part of the breast, the belly, and the thighs, and the tip of the wings and tail, (except one outer feather in each of the former, and the two middle feathers in the latter, which are coloured like the rest of the body,) are black. The legs are black, and very short.

SYNONYMS. Buceros Malabaricus. *Linn.*—Calao de Malabar. *Buffon.*—Malabar Hornbill. *Kerr.*—Pied Hornbill. *Lath.*—*Latham's Synopsis, vol.* i. *tab.* 2.

One of these birds, which was brought into England some years ago, exhibited several interesting peculiarities in its manners. It would leap forward, or sideways, with both legs at once, like a magpie or jay, and never walked. Its general air was rather stupid and dull; though, when surprised, it would sometimes put on a fierce look. It would eat lettuce, and some other esculent vegetables, after bruising them with its bill; it would also devour rats, mice, small birds, or raw flesh. It had different tones of voice on different occasions; sometimes a hoarse sound in the throat, most like *ouck, ouck;* at other times a very hoarse and weak noise, not unlike the clucking of a turkey-hen. It used to display its wings, and enjoy itself in the warm sun; but shivered in the cold: and, as winter approached, it died, unable to bear the severity of our climate, so different to its nature from that which it had left.

THE AFRICAN HORNBILL*, AND RHINOCEROS HORNBILL†.

The former of these species are found in various parts of Africa, but are not common in the neighbourhood of the

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* DESCRIPTION. The length of the African Hornbill is nearly four feet. Its bill is about ten inches long; and the horny protuberance upon it appears as if cut, with an aperture somewhat resembling the form of a club on cards, or an iron lance. This excrescence is of the same substance as the bill, but thinner, and yields to pressure. The aperture is about an inch long, and half an inch wide, having on the inside a black membrane, of use in preventing the introduction of any foreign body into the horn, which communicates interiorly with the head. The general colour of the plumage is a sooty black; some of the large feathers of the wings are, however, perfectly white.

SYNONYMS. Buceros Africanus. *Linn.*—Brac ou Calao d'Afrique. *Buffon.*—African Hornbill. *Latham.*

† DESCRIPTION. The protuberance of the beak of the Rhinoceros Hornbill is so large, and so much recurved, as to appear rather an

sea coasts. The females build in large, thick trees, and form a covered nest, like that of a magpie, but three or four times as large. This is placed firmly on the trunk, and the entrance to it is always on the east side. They have been sometimes known to have so many as eighteen young-ones.

These birds, in general, only run along the ground; but being of a distrustful disposition, they are soon raised by alarm, when they usually fly to a great distance, before they again alight. Their food consists principally of insects and lizards. The male and female are always to be seen in company; or sometimes there are two females to one male, but never more. The Negroes esteem this Hornbill sacred, never killing it themselves, and always, if possible, preventing the Europeans from firing at it. They have a superstition that the death of one of these birds gives cold to the whole district. M. Geoffroy, who examined several of them, was observed to kill one: they reproached him with the utmost severity, and every one present put his nose to the excrescence on the bill, in order to secure themselves from the injurious consequences.

The *Rhinoceros Hornbills*, which are found in Sumatra and several other parts of the east, feed on flesh and carrion. They are said to follow the hunters for the purpose of feeding on the entrails of the beasts that are killed. We are told also that they chase rats and mice, and, after pressing

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enormous deformity, than a natural production. The bird is somewhat smaller than a turkey, and of a black colour, except the tail, which is white, and marked with a bar of black. The beak is nearly a foot long, and of a pale yellow colour.

SYNONYMS. Buceros Rhinoceros. *Linn.*—Calao Rhinoceros. *Buffon.*—Rhinoceros Bird, or Horned Indian Raven. *Willughby.*—Great Hornbill. *Shaw's Nat. Mis.*

them flat with their bill, in a peculiar manner, toss them up into the air, and swallow them whole immediately on their descent.

*OF THE CROW TRIBE IN GENERAL**.

Few animals are more generally dispersed over the world than the different species of Crow; some of them being found in almost every climate. They are very prolific, clamorous, and usually associate in flocks. Most of them make their nests in trees, and the number of young-ones which they produce is five or six. They feed promiscuously on animal and vegetable substances. Some of the species, when in great numbers, are supposed to be injurious to man, by devouring grain; but they make some amends for this injury, by the immense quantities of noxious insects and other vermin which they destroy.

THE RAVEN †.

Among the antients the Raven was esteemed a bird of much importance in augury; and the various changes and modulations of its voice were studied with the greatest attention, and were too often used by designing men to mislead the unwary.

It frequents the neighbourhood of great towns; where it

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* These birds have a strong bill; with the upper mandible a little bent, the edges sharp, and, in general, a small notch near the tip. The nostrils are covered with bristles reflected over them; and the tongue is divided at the end. The toes are placed three forward, and one backward; and the middle toe is joined to the outer one as far as the first joint.

† SYNONYMS. Corvus Corax. *Linn.*—Corbeau. *Buffon.*—*Bew. Birds, p.* 66.

is useful in devouring the carrion and filth, which it scents at a vast distance. It is a cunning bird, and generally careful in keeping beyond the reach of a gun.

When brought up young, the Raven becomes very familiar; and, in a domestic state, he possesses many qualities that render him highly amusing. Busy, inquisitive, and impudent, he goes every where, affronts and drives off the dogs, plays his tricks on the poultry, and is particularly assiduous in cultivating the good-will of the cook-maid, who is generally his favourite in the family. But with the amusing qualities, he often also has the vices and defects of a favourite. He is a glutton by nature, and a thief by habit. He does not confine himself to petty depredations on the pantry or the larder; he aims at more magnificent plunder—at spoils that he can neither exhibit nor enjoy, but which, like a miser, he rests satisfied with having the satisfaction of sometimes visiting and contemplating in secret. A piece of money, a tea-spoon, or a ring, is always a tempting bait to his avarice: these he will slily seize upon, and, if not watched, will carry to his favourite hole.

Mr. Montagu was informed by a gentleman, that his butler having missed many silver spoons, and other articles, without being able to account for the mode in which they disappeared, at last observed a tame Raven, that was kept about the house, with one in his mouth; and, on watching him to his hiding-place, discovered there upwards of a dozen more.

Notwithstanding the injury these birds do to the farmer, a popular respect is paid to them, from their having been the birds that fed the Prophet Elijah in the wilderness. This prepossession in favour of the Raven is of a very antient date; since the Romans themselves, who thought the bird ominous, paid to it, from motives of fear, the most profound veneration.

A Raven, as Pliny informs us, that had been kept in the Temple of Castor, flew down into the shop of a tailor, who was highly delighted with its visits. He taught the bird several tricks; but particularly to pronounce the names of the Emperor Tiberius, and the whole Royal Family. The tailor was beginning to grow rich by those who came to see this wonderful Raven; till an envious neighbour, displeased at his success, killed the bird, and deprived the tailor of all his hopes of future fortune. The Romans, however, thought it necessary to take the poor tailor's part; they accordingly punished the man who offered the injury, and gave to the Raven all the honours of a magnificent interment.

The female builds her nest early in the spring, in trees and the holes of rocks; in which she lays five or six blueish-green eggs, spotted with brown. She sits about twenty days; during which time she is constantly attended by the male, who not only provides her with abundance of food, but, whenever she leaves the nest, takes her place.

Of the perseverance of the Raven in the act of incubation, Mr. White has related the following singular anecdote:—In the centre of a grove near Selborne, there stood an Oak, which, though shapely and tall on the whole, bulged out into a large excrescence near the middle of the stem. On this tree a pair of Ravens had fixed their residence for such a series of years, that the oak was distinguished by the title of "The Raven-tree." Many were the attempts of the neighbouring youths to get at this eyry: the difficulty whetted their inclinations, and each was ambitious of surmounting the arduous task; but, when they arrived at the swelling, it jutted out so in their way, and was so far beyond their grasp, that the boldest lads were deterred, and acknowledged the undertaking to be too hazardous. Thus the Ravens continued to build, nest upon nest, in perfect security; till the fatal day on which the wood was to be levelled. This was in the month of

February, when those birds usually sit. The saw was applied to the trunk, the wedges were inserted into the opening, the woods echoed to the heavy blows of the beetle or mallet, the tree nodded to its fall; but still the dam persisted to sit. At last, when it gave way, the bird was flung from her nest; and, though her parental affection deserved a better fate, was whipped down by the twigs, which brought her dead to the ground.

The Raven feeds chiefly on small animals; and is said to destroy rabbits, young ducks, and chickens; and sometimes even lambs, when they happen to be dropped in a weak state. In the northern regions, it preys in concert with the white bear, the Arctic fox, and the eagle: it devours the eggs of other birds, and eats shore-fish, and shell-fish: with the latter it soars into the air, and drops them from on high to break the shells and thus get at the contents. In the act of feeding, it shifts its prey from the bill to the feet, and from the feet to the bill, to ease itself. Willughby says, that it may be trained to fowling like a hawk.

The faculty of scent in these birds must be very acute; for in the coldest of the winter-days, at Hudson's Bay, when every kind of effluvia is almost instantaneously destroyed by the frost, buffaloes and other beasts have been killed where not one of these birds was seen; but, in a few hours, scores of them would be found collected about the spot, to pick up the blood and offal.

THE CARRION OR COMMON CROW *.

These birds live chiefly in pairs, in the woods, where they build their nests on the trees. The female lays five or

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* SYNONYMS. Corvus Corone. *Linn.*—Corbine ou Corneille noir. *Buff.*—*Penn. Brit. Zool. vol.* i. *tab.* 34.

six eggs, much like those of the raven; and, while sitting, is always fed by the male. They feed on putrid flesh of all sorts; as well as on worms, insects, and various kinds of grain. Like the ravens, they will sometimes pick out the eyes of lambs when just dropped. They also do much mischief in rabbit-warrens, by killing and devouring the young rabbits; and chickens and young ducks do not always escape their attacks.

Mr. Montagu states, that he once saw a Crow in pursuit of a pigeon, at which it made several pounces like a hawk; but the pigeon escaped by flying in at the door of a house. He saw another strike a pigeon dead from the top of a barn. It is so bold a bird, that neither the kite, the buzzard, nor the raven, approaches its nest without being driven away. When it has young it will even insult the peregrine falcon, and at one pounce frequently brings that bird to the ground.

When poultry hens lay their eggs in hedge-bottoms or stack-yards, Crows are often caught in the act of devouring them.—On the northern coast of Ireland a friend of Dr. Darwin saw above a hundred crows at once preying upon muscles: each crow took a muscle up in the air twenty or forty yards high, and let it fall on the stones, and thus, by breaking the shell, got possession of the animal. It is related that a certain ancient philosopher, walking along the sea-shore to gather shells, one of these unlucky birds mistaking his bald head for a stone, dropped a shell-fish upon it, and killed at once a philosopher and an oyster.

The familiarity and audacity of the Crows in some parts of the East is astonishing. They frequent the courts of the houses belonging to the Europeans; and, as the servants are carrying in dinner, will alight on the dishes, and fly away with the meat, if not driven off by persons who attend with sticks for that purpose.

In some parts of North America they are extremely numerous, and destroy the new-sown maize by pulling it out of the ground and devouring it. The ripening plants they also injure very greatly; picking a hole in the leaves which surround the ears, and thus exposing them to corruption by letting in the rain. The inhabitants of Pennsylvania and New Jersey allowed a reward of three-pence or four-pence a-head for destroying them; but the law was soon repealed, on account of the expense which it brought upon the public treasury.

There are at present more of these birds bred in England than in any other country of Europe. In the reign of Henry VIII. Crows had become so numerous, and were thought so prejudicial to the farmer, that they were considered an evil worthy of parliamentary redress; and an act was passed for their destruction, in which also rooks and choughs were included. Every hamlet was ordered to destroy a certain number of Crows' nests for ten successive years; and the inhabitants were compelled to assemble at stated times during that period, in order to consult on the most proper and effectual means of extirpating them.

The following are singular modes adopted in some countries for catching these birds:—A crow is fastened alive on its back firmly to the ground, by means of a brace on each side, at the origin of the wings. In this painful position the animal struggles and screams; the rest of its species flock to its cries from all quarters, with the intention, probably, of affording relief. But the prisoner, grasping at every thing within reach to extricate himself from his situation, seizes with his bill and claws, which are left at liberty, all that come near him, and thus delivers them a prey to the bird-catcher.—Crows are also caught with cones of paper baited with raw flesh; as the Crow introduces his head to devour the bait, which is near the bot-

tom, the paper, being besmeared with birdlime, sticks to the feathers of the neck, and he remains hooded. Unable to get rid of this bandage, which covers his eyes entirely, the Crow rises almost perpendicularly into the air, the better to avoid striking against any object; till, quite exhausted, he sinks down near the spot from which he mounted.

If a Crow be put into a cage, and exposed in the fields, his calls generally attract the attention of others that are in the neighbourhood, who flock round their imprisoned brother. This plan is sometimes adopted in order to get these birds within gun-shot; for, however shy they might otherwise be, their care is said in this case to be so much occupied on their friend, as to render them almost heedless of the gunner's approach.

Willughby states, that this bird is capable of being taught to articulate words with considerable distinctness. By the antients it was esteemed, particularly when it appeared on the left hand, as a bird of bad omen.

The Crow is so rare in Sweden, that Linnæus speaks of it as a bird that he never knew killed in that country but once.

THE ROOK *.

Besides insects, the Rooks feed on different kinds of grain, thus causing some inconvenience to the farmer; but

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* Description. The Rook is about the size of the carrion crow, but its plumage is more glossy. It also differs in having its nostrils, and the root of the bill, naked: in the crow, these are covered with bristly hair. This arises from the Rook's thrusting its bill continually into the earth, in search of worms and other food.

Synonyms. Corvus Frugilegus. *Linn.*—Freux, ou la Frayonne.—*Buff.*—*Bew. Birds, p.* 71.

this seems greatly repaid by the good they do to him, in extirpating the maggots of some of the most destructive of the beetle tribe.—In Suffolk, and in some parts of Norfolk, the farmers find it their interest to encourage the breed of Rooks, as the only means of freeing their grounds from the grub which produces the cock-chafer, and which in this state destroys the roots of corn and grass to such a degree, "that (says Mr. Stillingfleet, one of the most accurate observers of nature whom this country ever produced) I have myself seen a piece of pasture-land where you might turn up the turf with your foot." An intelligent farmer in Berkshire informed this gentleman, that one year, while his men were hoeing a field of turnips, a great number of Rooks alighted in a part of it where they were not at work. The consequence was a remarkably fine crop in this part, while in the remainder of the field there were scarcely any turnips that year.

These birds are gregarious, being sometimes seen in flocks so great as to darken the air in their flight. They build their nests on high trees, close to each other; generally selecting a large clump of the tallest trees for this purpose. When once settled, they every year frequent the same place. Rooks are, however, but bad neighbours to each other; for they are continually fighting and pulling to pieces each other's nests. These proceedings seem unfavourable to their living in such close community; and yet, if a pair offers to build on a separate tree, the nest is plundered and demolished at once. Some unhappy couples are not permitted to finish any nest till the rest have all completed their buildings; for as soon as they get a few sticks together, a party comes and demolishes the whole. It generally happens that one of the pair is stationed to keep guard, while the other goes abroad for materials.—From their conduct in these circumstances our cant-word *rooking*, for cheating, originated.

As soon as the Rooks have finished their nests, and before they lay, the cocks begin to feed the hens, who receive their bounty with a fondling, tremulous voice, and fluttering wings, and all the little blandishments that are expressed by the young while in a helpless state. This gallant deportment of the males is continued through the whole season of incubation.

New-comers are often severely beaten by the old inhabitants, (who are not fond of intrusions from other societies,) and even frequently driven quite away. Of this an instance occurred near Newcastle, in the year 1783. A pair of Rooks, after an unsuccessful attempt to establish themselves in a rookery at no great distance from the Exchange, were compelled to abandom the attempt, and take refuge on the spire of that building; and, although constantly interrupted by other Rooks, they built their nests on the *top of the vane*, and reared their young-ones undisturbed by the noise of the populace below them:—the nest and its inhabitants were of course turned about by every change of the wind. They returned and built their nest every year on the same place, till the year 1793, soon after which the spire was taken down. A small copper-plate was engraved, of the size of a watch-paper, with a representation of the top of the spire and the nest; and so much pleased were the inhabitants and other persons with it, that as many copies were sold as produced to the engraver the sum of ten pounds.

A remarkable circumstance respecting these birds occurred a few years ago at Dallam Tower, in Westmorland, the seat of Daniel Wilson, Esq.—There were two groves adjoining to the park; one of which had, for many years, been the resort of a number of Herons, that regularly every year built and bred there. In the other was a very large rookery. For a long time the two tribes lived peaceably together. At length, in the spring of 1775, the trees of the

heronry were cut down, and the young brood perished by the fall of the timber. The parent birds, not willing to be driven from the place, endeavoured to effect a settlement in the rookery. The Rooks made an obstinate resistance; but, after a desperate contest, in the course of which many of the Rooks and some of the herons lost their lives, the latter at length succeeded in obtaining possession of some of the trees, and that very spring built their nests afresh. The next season a similar conflict took place; which, like the former, was terminated by the victory of the herons. Since this time, peace seems to have been agreed upon between them: the Rooks have relinquished part of the grove to the herons, to which part alone they confine themselves; and the two communities appear to live together in as much harmony as before the dispute.

The following anecdote of this sagacious community is related by Dr. Percival, in his Dissertations: "A large colony of Rooks had subsisted many years in a grove on the banks of the river Irwell, near Manchester. One serene evening I placed myself within the view of it, and marked with attention the various labours, pastimes, and evolutions of this crowded society. The idle members amused themselves with chasing each other through endless mazes; and, in their flight, they made the air sound with an infinitude of discordant noises. In the midst of these playful exertions, it unfortunately happened that one Rook, by a sudden turn, struck his beak against the wing of another. The sufferer instantly fell into the river. A general cry of distress ensued. The birds hovered, with every expression of anxiety, over their distressed companion. Animated by their sympathy, and, perhaps, by the language of counsel known to themselves, he sprang into the air, and, by one strong effort, reached the point of a rock which projected into the water. The joy became loud and universal; but, alas! it was soon changed into notes of lamentation; for

the poor wounded bird, in attempting to fly towards his nest, dropped into the river, and was drowned, amidst the moans of his whole fraternity."

There seems to exist a wonderful antipathy between these birds and the raven: Mr. Markwick says, that in the year 1778, as soon as a raven had built her nest in a tree adjoining to a very numerous rookery, all the rooks immediately forsook the spot, and have not returned to build there since. At the Bishop of Chichester's rookery, at Broomham, near Hastings, upon a raven's building her nest in one of the trees, all the Rooks forsook the spot; they however returned to their haunts in the autumn, and formed their nests there the succeeding year. It is no very difficult task to account for this antipathy. The raven will scarcely suffer any bird whatever to come within a quarter of a mile of its nest, being very fierce in defending it. It besides seizes the young Rooks from their nests, to feed its own offspring. This Mr. Lambert was an eye-witness to, at Mr. Seymer's at Harford, in Dorsetshire; for there was no peace in the rookery night nor day, till one of the old ravens was killed, and the nest was destroyed.

Rooks begin to build in March; and, after the breeding season is over, they forsake their nesting trees, and for some time roost elsewhere; but they have always been observed to return in August. In October they repair their nests.

When the first brood of Rooks are sufficiently fledged, they all leave their nest-trees in the day-time, and resort to some distant place in search of food: but return regularly every evening, in vast flights, to their nest-trees; where, after flying round several times with much noise and clamour till they are all assembled together, they take up their abode for the night.

Mr. White, in his Natural History of Selborne, speaking of the evening exercises of Rooks in the autumn, remarks, that just before dusk they return in long strings from the

foraging of the day, and rendezvous by thousands over Selborne Down, where they wheel round, and dive in a playful manner in the air, exerting their voices, which, being softened by the distance, become a pleasing murmur not unlike the cry of a pack of hounds in deep echoing woods. When this ceremony is over, with the least gleam of light they retire to the deep beech woods of Tisted and Kepley. We remember (says Mr. White) a little girl, who, as she was going to bed, used to remark, on such an occurrence, in the true spirit of physico-theology, that the Rooks were saying their prayers; and yet this child was much too young to be aware that the Scriptures have said of the Deity—that "*He feedeth the Ravens, who call upon him.*"

In the parts of Hampshire adjacent to the New Forest, after the Rook has reared his progeny, and has carried off such of them as have escaped the arts of men and boys, he retires every evening at a late hour, during the autumn and winter months, to the closest coverts of the forest, having spent the day in the open fields and enclosures, in quest of food. His late retreat to the forest is characteristic of the near approach of night.

> Retiring from the downs, where all day long
> They pick their scanty fare, a black'ning train
> Of loitering Rooks thick urge their weary flight,
> And seek the shelter of the grove.——

But although the forest may be called his winter habitation, he generally every day visits his nursery; preserving the idea of a family, for which he begins to make provision very early in the spring.

Among all the sounds of animal nature, few are more pleasing than the cawing of Rooks. The Rook has but two or three notes, and when he attempts a *solo* we cannot

praise his song; but when he performs in *concert*, which is his chief delight, these notes, although rough in themselves, being intermixed with those of the multitude, have, as it were, all their rough edges worn off, and become harmonious, especially when softened in the air, where the bird chiefly performs. We have this music in perfection, when the whole colony is raised by the discharge of a gun.

Dr. Darwin has remarked, that a consciousness of danger from mankind is much more apparent in Rooks than in most other birds. Any one who has in the least attended to them, will see that they evidently distinguish that the danger is greater when a man is armed with a gun, than when he has no weapon in his hands. In the spring of the year, if a person happens to walk under a rookery with a gun in his hand, the inhabitants of the trees rise on their wings, and scream to the unfledged young to shrink into their nests from the sight of the enemy. The country-people, observing this circumstance so uniformly to occur, assert that Rooks can smell gunpowder.

In England these birds remain during the whole year; but both in France and Silesia they migrate. It is a singular circumstance, that the island of Jersey should be entirely without Rooks: particularly when we know that they frequently fly over from our country into France.

THE JACKDAW *.

Jackdaws are common birds in England, where they remain during the whole year; but in some parts of the Continent they are migratory.

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* SYNONYMS. Corvus Monedula. *Linn.*—Choucas. *Buffon.*—*Bew. Birds, p.* 73.—*Penn. Brit. Zool. vol.* i. *tab.* 34.

They frequent old towers and ruins in great flocks, where they construct their nests; and they have been sometimes known to build in hollow trees, near a rookery, and to join the rooks in their foraging parties. In some parts of Hampshire, from the great scarcity of towers or steeples, they are obliged to form their nests underground, in the rabbet-holes; they also build in the interstices between the upright and cross stones of Stonehenge, far out of the reach of the shepherd-boys, who are always idling about that place. In the Isle of Ely, from the want of ruined edifices, they often build their nests in chimnies. In a grate below one of these nests, which had not been used for some time, a fire was lighted; the materials of the nest caught fire, and they were in such quantity, that it was with great difficulty the house could be preserved from the flames.

These birds feed principally on worms, and the grubs of insects; but I was once witness to a singular deviation from their usual mode in this respect. I was walking with a friend in the Inner Temple garden, about the middle of May, 1802, when we observed a Jackdaw hovering, in a very unusual manner, over the Thames. A small barrel was floating near the place, a buoy to a net that some fishermen were hauling; and we at first thought the bird was about to alight upon it. This, however, proved a mistake; for he descended to the surface of the water, and fluttered for a few seconds with his bill and feet immersed; he then rose, flew to a little distance, and again did the same; after which he made a short circuit, and alighted on a barge, about fifty yards from the garden, where he devoured a small fish. When this was done, he made a third attempt, caught another, and flew off with it in his mouth.

Jackdaws are easily tamed; and may, with a little difficulty, be taught to pronounce several words. They

conceal such parts of their food as they cannot eat; and often, along with it, small pieces of money or toys, frequently occasioning, for the moment, suspicions of theft in persons who are innocent. They may be fed on insects, fruit, grain, and small pieces of meat.

In Switzerland there is found a variety of the Jackdaw that has a white ring round its neck. In Norway, and other cold countries, Jackdaws have been seen entirely white.

THE JAY*.

This beautiful bird is well known in our woods; it builds in the trees an artless nest, composed of sticks, fibres, and twigs, in which it lays five or six eggs. Its delicate cinnamon-coloured back and breast, with blue wing-coverts, barred with black and white, render it one of the most elegant birds produced in these islands. Its bill is black, and chin white; and on its forehead there is a beautiful tuft of white feathers, streaked with black, which it has the power of erecting at pleasure. Its voice is harsh, grating, and unpleasant.

When kept in a domestic state, the Jay may be rendered very familiar, and will catch and repeat a variety of sounds. One of them has been heard to imitate so exactly the noise made by the action of a saw, as to induce passengers to suppose that a carpenter was at work in the house.

A Jay kept by a person in the north of England, had learned, at the approach of cattle, to set a cur dog upon them, by whistling and calling him by his name. One winter, during a severe frost, the dog was by this means

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* Synonyms. Corvus Glandarius. *Linn.*—Geai. *Buffon.*—*Bew. Birds, p.* 80.

excited to attack a cow that was big with calf; when the poor animal fell on the ice, and was much hurt. The Jay was complained of as a nuisance, and its owner was obliged to destroy it.

The young Jays continue with the old ones till the next pairing time; they then choose each its mate, and separate, in order to produce a new progeny. The old birds when enticing their fledged young to follow them, make a noise like the mewing of a cat.

These birds feed in general on acorns, nuts, seeds, and fruit of all kinds; and in summer they are often found injurious to gardens, from their devouring the peas and cherries.—Mr. Wallis, in his Natural History of Northumberland, says, "They come two or three together out of the wood into my little garden at Simonburn, in the rasp- and gooseberry season, and can hardly be frightened away; proclaiming it (as it were) in loud clamours from tree to tree, to be their own property."

THE MAGPIE*.

Like the crow, this bird feeds on almost all substances, animal as well as vegetable, that come in its way. It forms its nest with great art: leaving a hole in the side for admittance, and covering the whole upper part with a texture of thorny branches, closely entangled, by which a retreat is secured from the rude attacks of other birds; the inside is furnished with a sort of mattress, composed of wool and other soft materials, on which the young ones, which are generally seven or eight in number, repose.

It is a crafty, and, in a tame state, a familiar bird; and may be taught to pronounce not only words, but short

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* Synonyms. Corvus Pica. *Linn.*—Pie. *Buff.*—Pianet. *Willughby.*—*Bew. Birds, p.* 75.

sentences, and even to imitate any particular noise that it hears.

Plutarch relates a singular story of a Magpie belonging to a barber at Rome. This bird could imitate, to a wonderful extent, almost every noise that it heard. Some trumpets happened one day to be sounded before the shop; and for a day or two afterwards the Magpie was quite mute, and seemed pensive and melancholy. This surprised all who knew it; and they supposed that the sound of the trumpets had so stunned it, as to deprive it at the same time both of voice and hearing. It appears, however, that this was not the case; for, says this writer, the bird had been all the time occupied in profound meditation, and was studying how to imitate the sound of the trumpets: accordingly, in the first attempt, it perfectly imitated all their repetitions, stops, and changes. This new lesson, however, made it entirely forget every thing that it had learned before.

In certain districts of Norway, the Magpie is so uncommon a bird, that its appearance is considered a sign of the approaching death of some principal person in the neighbourhood. In our country the Magpie is also esteemed a bird of omen. In various parts of the north of England, if one of these birds is observed flying by itself, it is accounted by the common people a sign of ill luck: if there are two together, they forebode something fortunate: three indicate a funeral: and four a wedding.

Like the other birds of its tribe, the Magpie is greatly addicted to stealing; and, when it is satiated, will frequently even hoard up its provisions. It frequently commits ravages in rabbet-warrens and poultry-yards, by killing the young animals, and destroying the eggs. It may be caught by means of a steel trap baited with a rat or a dead bird.

THE RED-LEGGED CROW *.

These birds, which are partial to rocky and mountainous habitations, are not very common in any part of the world; they are, however, found in some particular parts of both Asia and Africa. In our country they frequent some places in Cornwall and North Wales, inhabiting the cliffs and ruinous castles along the shores. A few are found on Dover Cliff, where they came entirely by accident: a gentleman in the neighbourhood had a pair sent from Cornwall as a present, which escaped, and stocked those rocks. They are not constant to their abode; but frequently, in the course of the year, desert the place for a week or ten days at a time.

The Red-legged Crow is a very tender bird, of elegant form, and unable to bear severe weather. Active, restless, and meddling, it is not to be trusted where things of consequence lie. It is much taken with glittering objects; and very apt to snatch up bits of lighted sticks, so that instances have occurred of houses being set on fire by it. The injury that it does to thatched houses is sometimes very great; for, tearing holes into them with its long bill, in search of worms and insects, the rain is admitted, and quickens their decay. It will also often pick out lime from walls, in search of spiders and flies.

These birds commonly fly very high, and make a more shrill noise than the jackdaw. The cornish peasantry

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* Description. The colour of this Crow is a fine blue or purple black; and its bill and legs are of a bright and deep orange.

Synonyms. Corvus Graculus. *Linn.*—Crave, ou le Coracias. *Buffon.*—Cornish Chough. *Willughby.*—Killegrew. *Charlton.*—Cornwall Kae. *Sibbald.*—Red-legged Crow. *Penn.*—*Bew. Birds, p.* 77.—*Penn. Brit. Zool. vol.* i. *tab.* 35.

attend so much to them, that it is very common to see them tame in their gardens. They shriek out aloud at the appearance of any thing strange or frightful; but when applying for food, or desirous of pleasing those who usually fondle them, their chattering is very soft and engaging.

When tame, they are very docile and amusing, and extremely regular to their time of feeding. But, however familiar they may be to their immediate friends, they will not admit a stranger to touch them.

Their nests are built about the middle of the cliffs, or in the most inaccessible parts of ruins. The eggs, which are four or five in number, are somewhat longer than those of the jackdaw, and of a cinereous white, marked with irregular dusky blotches. From their being very tender, these birds are seldom seen abroad but in fine weather.

THE CINEREOUS CROW *.

The Cinereous Crow, which is a native of North America, and is extremely common in the neighbourhood of Hudson's Bay, is a very familiar bird, and fond of frequenting habitations, either houses or tents. But so much is it given to pilfering, that no kind of provisions it can come at, either fresh or salted, are safe from its depredations. It is so bold as to come into tents, sit on the edge of the kettle, when hanging over the fire, and steal victuals out of the dishes.

Few creatures are more troublesome to the hunters, fre-

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* DESCRIPTION. This bird is so small as seldom to weigh more than two or three ounces. Its plumage is brown-gray. The feathers are long, soft, and silky, and in general so much unwebbed, as in many parts of the body to resemble hair.

SYNONYMS. Corvus Canadensis. *Linn.*—Geay-brun de Canada. *Buff.*—Whiskey Jack, or Geeza. *Hearne.*—Cinereous Crow. *Latham.*

quently following them a whole day together: they will perch on a tree while the hunter is baiting his martin-traps, and as soon as his back is turned, go and eat the baits.

They are a kind of mocking bird, and have, of course, a variety of notes. They are easily tamed, but never live long in confinement, always pining away (notwithstanding their eating freely) from the moment they are caught.

The care that this bird takes in laying up in summer a stock of fruit for winter provision, when no fruit is to be had abroad, is a remarkable instance of foresight in the bird tribe.

Its nest is built in trees, exactly in the manner of those of the blackbird and thrush; and the female lays four blue eggs, but seldom hatches more than three young ones. These birds breed early in the spring. They sometimes steal flesh, but never eat it, feeding principally on fruits, moss and worms.

*OF THE ORIOLES IN GENERAL**.

This is a noisy, gregarious, and voracious race; and is confined almost exclusively to America. Most of the species form pendulous nests, from the exterior branches of trees, which secure them from rapacious animals. Several of these are usually constructed on one tree. The greater part of the Orioles feed on fruits, but some of them on insects and grain.

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* The characteristics of this tribe are, a straight, conic, very sharp-pointed bill; with the mandibles equal in length, and the edges sharp and inclining inwards. The nostrils are small; they are situated at the base of the bill, and are partly covered. The tongue is cleft at the end. The toes stand three forward and one backward, and the middle one is joined near the base to the outer.

THE RED-WINGED ORIOLE *.

In some parts of America these birds occasionally appear in such immense flocks, that frequently at one draw of a net more than three hundred are caught. They feed on insects, wheat, and maize; and are exceedingly destructive to the grain. Their common name in America is *Maize-thief*: they seldom attack the maize except just after it is sown, or, afterwards, on the ear becoming green, when, pecking a hole in the side, the rain is admitted, and the grain spoiled. They are supposed to do this in search of insects. The farmers sometimes attempt their destruction, by steeping the maize in a decoction of white hellebore before it is sown: the birds that eat this prepared corn, are seized with a vertigo, and fall down perfectly stupified. They are so bold and voracious, that a flock may frequently be shot at two or three times before they can be driven off; indeed it often happens, that during the second loading of the gun their number increases.

Catesby informs us, that in Carolina and Virginia, these birds breed among the rushes; the points of which they weave so as to form a sort of roof or shed, under which they build their nest, at so judicious a height, that it can never be reached even by the highest floods. Dr. Latham states, that they build between the forks of trees, three or

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* Description. This bird is about the size of a starling, being nearly nine inches long. The bill is black, and almost an inch in length. The whole body is of a deep black; except the upper part of the wings, which is of a full red. The legs are black.

Synonyms. Oriolus Phœnicius. *Linn.*—Commandeur. *Buff.*—Scarlet-feathered Indian Bird. *Willughby.*—Red-winged Starling. *Catesby.*—Red-bird. *Brickell.*—Red-winged Oriole. *Latham.*

four feet from the ground, in swamps which are seldom penetrable by man.

They are easily caught in traps, in thickets which they frequent; and are, without difficulty, rendered tame, and even taught to speak. They are fond of singing; and are exceedingly playful, either when confined or when suffered to run about the house. With the liveliness and familiarity which they possess, it is said to be highly diverting to place them before a looking-glass, and observe their strange and whimsical gesticulations: sometimes they erect the feathers of the head, and hiss at the image; then lowering their crest, they set up their tail, quiver their wings, and strike at it with their bills. Whether taken young or old, they become immediately tame. It is a very common thing to keep them in a cylindrical cage with bells, which they turn round in the same manner as squirrels are often made to do in this country. When they have been confined in a cage for some years, they are said to become perfectly white, and so stupid and inanimate, as at last not to be able to feed themselves; this, however, never happens abroad.

THE ICTERIC ORIOLE*, AND WEAVER ORIOLE†.

The chief food of the Icteric Oriole consists of insects, for the purpose of killing which, the Americans domes-

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* DESCRIPTION. The Icteric Oriole is, in size, somewhat smaller than a blackbird; of a tawny colour, with the head, throat, back, quill, and tail-feathers, black. The wings have each a white spot.

It is a native of Carolina and Jamaica.

SYNONYMS. Oriolus Icterus. *Linn.*—Troupiale. *Buff.*—Banana Bird from Jamaica. *Albin.*—Large Banana Bird from Jamaica. *Brown.*—Yellow and Black Pie. *Catesby.*—Icteric Oriole. *Latham.*

* DESCRIPTION. This bird is of a yellow colour, the head brown,

ticate and keep it in their houses. It hops about in a similar manner to the magpie; and has also many of the other gestures of that bird. Albin states, that in all its actions, it resembles the starlings; and adds, that sometimes four or five of them will unite to attack a larger bird, which, after they have killed, they eat in a very orderly manner, each choosing his part according to his valour. In a wild state they are so fierce and bold, that, when disturbed, they will attack even mankind; but, when introduced into our society, they are said to be easily tamed.

Their nests are constructed in a cylindrical form; several on the same tree, and suspended from the extremity of the branches, where they wave freely in the air. In these situations they are far out of the reach of such animals as would otherwise destroy the young ones. Several other species construct their nests in a similar manner.

Of two females of the *Weaver Oriole*, which were brought some years ago from Senegal to England, it was observed, that, being kept together in a cage, they entwined some of the stalks of the pimpernel, with which they were fed, in the wires. As this seemed to show a disposition for forming a nest, some rush-stalks were put into the cage: on which they presently made a nest large enough to hide one of them; but it was as often deranged as made, the work of one day being spoiled the next. This seemed to prove that the fabrication of the nest in a state of nature, is the work of both male and female, and

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with a golden shade, and the quill and tail feathers blackish, edged with orange.

It is chiefly found in Senegal and some other parts of Africa.

SYNONYMS Oriolus Textor. *Linn.*—Cap-more. *Buff.*—Weaver Oriole. *Latham.*

that the female is not able to finish this important structure by herself.

A bird of this species, having, by accident, obtained a thread of sewing-silk, wove it among the wires of its cage; and, on being supplied with more, it interlaced the whole very confusedly, so as to prevent most part of that side of the cage from being seen through. It was found to prefer green and yellow silks to those of any other colour.

OF THE BIRDS OF PARADISE IN GENERAL.*

It is not until late years that this tribe has been otherwise than very imperfectly known; and of the manners of the individuals we are even yet almost entirely ignorant. No class of birds has given rise to more fables than this. From different writers we are taught to understand that they never touch the ground, from the time of their exclusion from the egg, to their death; that they live wholly on the *dew*, and are produced without legs: that, when they sleep, they hang themselves by the two long feathers of the tail, to the branch of a tree; that the female produces her egg in the air, which the male receives in an orifice in his body, where it is hatched; and a thousand other stories that are too ridiculous even to be mentioned.

The whole race, as far as we are at present acquainted with them, are natives of New Guinea, from whence they migrate into the neighbouring islands. Their plumage is in general extremely brilliant in its colours.

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* The Birds of Paradise have their bills slightly bent, and the base clad with velvet-like feathers. The nostrils are small, and covered. The tail consists of ten feathers; the two middle ones of which, in several of the species, are very long, and webbed only at the base and tips. The legs and feet are large and strong; having three toes forward and one backward, and the middle toe connected to the outer one as far as the first joint.

THE GREATER BIRD OF PARADISE*.

There are two varieties of this species, both of which chiefly inhabit the islands of Arrou. They are supposed to breed in New Guinea, and to reside there during the wet monsoon; but they retire to the Arrou islands, about a hundred and forty miles eastward, during the dry or western monsoon.

They always migrate in flocks of thirty or forty, and have a leader, which the inhabitants of Arrou call the king. He is said to be black, to have red spots, and to fly far above the flock, which never desert him, but always settle in the same place that he does. They never fly with the wind, as in that case their loose plumage would be ruffled, and blown over their heads; and a change of wind often compels them to alight on the ground, from which they cannot rise without great difficulty. When they are surprised by a heavy gale, they instantly soar to a higher region, beyond the reach of the tempest. There, in a serene sky, they float at ease on their light flowing feathers, or pursue their journey in security. During their flight they cry like starlings; but when a storm blows in their rear, they express their distressed situation by a note somewhat resembling the croaking of a raven. In calm weather, great numbers of these birds may be seen flying, both in companies and singly, in pursuit of the larger butterflies and other insects on which they feed.

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* Description. The general colour of these birds is chesnut, with the neck of a gold-green, beneath. The feathers of the back and sides are considerably longer than those of the body. They have two long tail-feathers, which are straight, and taper to the tip.

Synonyms. Paradisea apoda. *Linn.*—Oiseau de Paradis. *Buff.*—Birds of Paradise. *Willughby.*—Greater Bird of Paradise. *Latham.*

They never willingly alight but on the highest trees. They feed on fruit and insects.

Their arrival at Arrou is watched by the natives, who either shoot them with blunt arrows, or catch them by means of bird-lime or in nooses. When caught, they make a vigorous resistance, and defend themselves stoutly with their bills. They are instantly killed, the entrails and breast-bone are taken out, and they are then dried with smoke and sulphur for exportation to Banda, where they are sold for half a rix-dollar each. They are sent to all parts of India and to Persia, to adorn the turbans of persons of rank, and even the trappings of the horses. Not long ago, they formed an additional ornament to the head-dresses of the British fair.

OF THE CUCKOO TRIBE IN GENERAL.*

The different species of Cuckoos are scattered through the four quarters of the globe, but are much more common in the hot than in temperate or cold climates. One only species is found in Great Britain, and not more than two or three are natives even of Europe.

THE COMMON CUCKOO†.

The Cuckoo visits us early in the spring. Its well-known cry is generally heard about the middle of April,

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* These birds have their bill weak, and more or less bending. The nostrils are bounded by a small rim; and the tongue is short and pointed. The toes are situated two forwards and two backwards. The tail is wedge-shaped, and consists of ten soft feathers.

† DESCRIPTION. The Cuckoo is about fourteen inches in length, and twenty-five in breadth. The bill is black, strong, and somewhat curved. The upper parts of the plumage are chiefly of a dove co-

and ceases about the latter end of June: its stay is short, the old Cuckoos being said to quit this country early in July. These birds are generally supposed to build no nest; but, what is also extraordinary, the female Cuckoo deposits her solitary egg in that of another bird, by whom it is hatched. The nests she chooses for this purpose are generally selected from those of the following birds: the hedge-sparrow, water-wagtail, titlark, yellow-hammer, green linnet, or the whinchat. Of these it has been observed, that she shows much the greatest partiality to the nest of the hedge-sparrow.

We are indebted to the accurate observations of Dr. Jenner, for the following account of the habits and economy of this singular bird, in the disposal of its egg.— He states that, during the time the hedge-sparrow is laying her eggs, which generally occupies four or five days, the Cuckoo contrives to deposit her egg among the rest, leaving the future care of it entirely to the hedge-sparrow. This intrusion often occasions some disorder; for the old hedge-sparrow at intervals, whilst she is sitting, not only throws out some of her own eggs, but sometimes injures them in such a way, that they become addle, so that it frequently happens, that not more than two or three of the parent-bird's eggs are hatched: but, what is very remarkable, it has never been observed that she has either thrown out or injured the egg of the Cuckoo. When the hedge-sparrow has sat her usual time, and has disengaged

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lour; the throat is pale gray; and the breast and belly are white, crossed with undulated lines of black. The vent feathers are of a buff colour, marked with a few dusky spots. The two middle tail feathers are black, tipped with white. The plumage of the young birds is chiefly brown, mixed with ferruginous and black.

SYNONYMS. Cuculus canorus. *Linn.*—Coucou. *Buff.*—*Bew. Birds*, p. 104.—*Penn. Brit. Zool. vol.* i. *tab.* 36.

the young Cuckoo and some of her own offspring from the shell, her own young ones, and any of her eggs that remain unhatched, are soon turned out: the young Cuckoo then remains in full possession of the nest, and is the sole object of the future care of the foster-parent. The young birds are not previously killed, nor the eggs demolished; but they are left to perish together, either entangled in the bush that contains the nest, or lying on the ground under it.—Dr. Jenner next proceeds to account for this seemingly unnatural circumstance; and, as what he has advanced is the result of his own repeated observations, I shall give it nearly in his own words: "On the 18th of June, 1787, he examined a nest of a hedge-sparrow, which then contained a Cuckoo's and three hedge-sparrow's eggs. On inspecting it the day following, the bird had hatched; but the nest then contained only a young Cuckoo and one young hedge-sparrow. The nest was placed so near the extremity of a hedge, that he could distinctly see what was going forward in it; and, to his great astonishment, saw the young Cuckoo, though so lately hatched, in the act of turning out the young hedge-sparrow. The mode of accomplishing this was curious: the little animal, with the assistance of its rump and wings, contrived to get the bird upon its back, and, making a lodgment for his burthen by elevating its elbows, climbed backwards with it up the side of the nest, till it reached the top; where, resting for a moment, it threw off its load with a jerk, and quite disengaged it from the nest. After remaining a short time in this situation, and feeling about with the extremities of its wings, as if to be convinced that the business was properly executed, it dropped into the nest again. Dr. J. made several experiments in different nests, by repeatedly putting in an egg to the young Cuckoo; which he always found to be disposed of in the same manner. It is very remarkable, that nature seems to have provided for the

singular disposition of the Cuckoo, in its formation at this period; for, different from other newly-hatched birds, its back, from the scapulæ downward, is very broad, with a considerable depression in the middle, which seems intended by nature for the purpose of giving a more secure lodgment to the egg of the hedge-sparrow or its young one, while the young Cuckoo is employed in removing either of them from the nest. When it is above twelve days old, this cavity is quite filled up, the back assumes the shape of that of nestling birds in general, and at that time the disposition of turning out its companion entirely ceases. The smallness of the Cuckoo's egg, which in general is less than that of the house-sparrow, is another circumstance to be attended to in this surprising transaction, and seems to account for the parent Cuckoo's depositing it in the nests of such small birds only as have been mentioned. If she were to do this in the nest of a bird that produced a larger egg, and consequently a larger nestling, the design would probably be frustrated; the young Cuckoo would be unequal to the task of becoming sole possessor of the nest, and might fall a sacrifice to the superior strength of its partners."

Dr. Jenner observes, that it sometimes happens that the eggs of two Cuckoos are deposited in the same nest; and gives the following instance, which fell under his observation. Two Cuckoos and a hedge-sparrow were hatched in the same nest; one hedge-sparrow's egg remained unhatched. In a few hours a contest began between the Cuckoos for possession of the nest, which continued undetermined till the afternoon of the following day, when one of them, which was somewhat superior in size, turned out the other, together with the young hedge-sparrow, and the unhatched egg. This contest, he adds, was very remarkable: the combatants alternately appeared to have the advantage, as each carried the other several times nearly

to the top of the nest, and again sank down oppressed by the weight of its burthen; till at length, after various efforts, the strongest prevailed, and was afterwards brought up by the hedge-sparrow.

There is certainly no reason to be assigned, from the formation of this bird, why, in common with others, it should not build a nest, incubate its eggs, and rear its own young; for it is in every respect perfectly formed for all these offices. To what cause then may we attribute the above singularities? May they not be owing to the following circumstances?—the short residence this bird is allowed to make in the country where it is destined to propagate its species, and the call that nature has upon it during that short residence to produce a numerous progeny. The Cuckoo's first appearance here is about the middle of April: its egg is not ready for incubation till some weeks after its arrival, seldom before the middle of May. A fortnight is taken up by the sitting bird in hatching the egg. The young bird generally continues three weeks in the nest before it flies, and the foster-parents feed it more than five weeks after this period; so that if a Cuckoo should be ready with an egg much sooner than the time pointed out, not a single nestling, even of the earliest, would be fit to provide for itself before its parent would be instinctively directed to seek a new residence, and be thus compelled to abandon its offspring; for the old birds take their final leave of this country the first week in July.

"There seems (says Dr. Jenner) no precise time fixed for the departure of young Cuckoos. I believe they go off in succession, probably as soon as they are capable of taking care of themselves; for although they stay here till they become nearly equal in size, and in growth of plumage, to the parent, yet in this very state the fostering care of the hedge-sparrow is not withdrawn from them. I have frequently seen the young Cuckoo of such a size, that the

hedge-sparrow has perched on its back, or half-expanded wing, in order to gain sufficient elevation to put the food into its mouth. At this advanced age it is probable that the young Cuckoos procure some food for themselves; like the young rook, for instance, which in part feeds itself, and is partly fed by the old ones, till the approach of the pairing season *."

The same instinctive impulse which directs the Cuckoo to deposit her eggs in the nests of other birds, directs her young one to throw out the eggs and young of the owner of the nest. The scheme of nature would be incomplete without it; for it would be extremely difficult, if not impossible, for the birds destined to find nourishment for the Cuckoo, to find it also for their own young ones, after a certain period; nor would there be room for them all to inhabit the nest.

The above are certainly well-attested instances of the Cuckoo's laying its eggs in the nests, and trusting its young to the protection of other birds; yet we have also instances, equally well attested, of their hatching and feeding their own nestlings.

The Rev. Mr. Stafford, one day walking in Blossopdale, in Derbyshire, saw a Cuckoo rise from its nest; which was on the stump of a tree that had been some time felled. In this nest there were two young Cuckoos; one of which he fastened to the ground by means of a peg and line; and very frequently, for many days, beheld the old Cuckoo feed them.

Mr. Daines Barrington, who recorded this account, was also furnished with two other instances of Cuckoo's nests, in which the proper parents fed their young; the one within four miles of London, and the other on the south-west coast of Merionethshire.

* Philosophical Transactions, vol. 78.

It has been conjectured by some persons, that the Cuckoo remains in this country hidden in hollow trees, and in a torpid state, during the winter. In support of this opinion, Willughby, on the credit of another person, relates the following story: "The servants of a gentleman in the country, having stocked up, in one of the meadows, some old, dry, rotten willows, thought proper, on a certain occasion, to carry them home. In heating a stove, two logs of this timber were put into the lower part, and fire was applied as usual. But soon, to the great surprise of the family, was heard the voice of a Cuckoo, chirping three times from under the stove. Wondering at so extraordinary a cry in winter time, the servants drew the willow logs from the furnace, and in the midst of one of them they saw something move; when, taking an ax, they opened the hole, and, thrusting in their hands, first they plucked out nothing but feathers; afterwards they got hold of a living animal, and this was the Cuckoo that the fire had awaked. It was, indeed, (continues our historian,) brisk and lively, but wholly naked and bare of feathers, and without any winter provision in its hole. This Cuckoo the boys kept two years afterwards alive in the stove; but whether it repaid them with a second song, the author of the tale has not thought fit to inform us."

A few years ago a young Cuckoo was found in a torpid state, in the thickest part of a close furze-bush. When taken up, it soon exhibited signs of life, but was quite destitute of feathers. Being kept warm, and carefully fed, it grew and recovered its coat. In the spring following it made its escape; and in flying across the river Tyne, was heard to give its usual call.

It would be wrong to assert as a general fact, that Cuckoos remain torpid in this country during the winter, because half a dozen (or perhaps not so many) instances are recorded of their having been found in this state. We

are led much rather to suppose, that these accidental occurrences have arisen probably from their being young birds that had not been strong enough to leave us at the usual time of migration, and had therefore sought for shelter and warmth in the places where they have been discovered.

It is supposed that there are more male Cuckoos than females: Mr. Pennant observes, that five male birds were caught in a trap in one season; and Dr. Latham says, that out of at least half a dozen that he attended to, chance never directed him to a female. The males alone being vocal, may, however, be one cause why our specimens are chiefly of this sex; their note directing the gunner to take aim, whilst the female is secured by her silence.

The young birds, though helpless and foolish for a great length of time, may be, and often are, brought up tame, so as to become familiar. In this state they will eat bread and milk, fruits, insects, eggs, and flesh either cooked or raw; but in a state of nature, they are supposed to live principally on caterpillars. When fat, they are said to be as good eating as the land-rail.

THE BEE CUCKOO, OR MOROC*.

To this bird is ascribed the faculty of discovering and pointing out to man, and to the quadruped called the Ratel †, the nests of wild bees. It is itself exceedingly fond

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* Description. The Bee Cuckoo, in its external appearance, does not much differ from the common sparrow; except that it is somewhat larger, and of a rather lighter colour: it has also a yellow spot on each shoulder, and the feathers of its tail are dashed with white.

Synonyms. Cuculus indicator. *Linn.*—Coucou indicateur. *Buff.*—Honey Guide. Moroc. *Sparrman*

† *Viverra mellivora* of Linnæus.

both of honey and of the bee-maggots; and it knows that, when a nest is plundered, some of the honey must fall to the ground, which consequently comes to its share: but, in general, a part is purposely left by the plunderers as a reward for its services. The way in which this bird communicates to others the discovery it has made, is as surprising as it is well adapted to the purpose.

The morning and evening are its principal meal times; at least, it is then that it shows the greatest inclination to come forth, and, with a grating cry of *cheer*, *cheer*, *cheer*, to excite the attention of the ratel, as well as of the Hottentots and colonists, of whose country it is a native. Somebody then generally repairs to the place whence the sound proceeds; when the bird, continually repeating its cry of *cheer*, *cheer*, *cheer*, flies on slowly, and by degrees, towards the quarter where the swarm of bees has taken up its abode. The persons thus invited accordingly follow; taking great care at the same time not to frighten their guide by any unusual noise, but rather to answer it now and then with a soft and gentle whistle, by way of letting the bird know that its call is attended to. When the bees' nest is at some distance, the bird often makes long stages or flights, waiting for its sporting companions between each flight, and calling to them again to come on; but it flies to shorter distances, and repeats its cry more frequently and with greater earnestness, in proportion as they approach nearer to the nest. When the bird has sometimes, in consequence of its great impatience, got too far a-head of its followers; but particularly when, on account of the unevenness of the ground, they have not been able to keep pace with it, it has flown back to meet them, and with redoubled cries has denoted still greater impatience, upbraiding them as it were for being so tardy. When it comes to the bees' nest, whether built in the cleft of a rock, in a hollow tree, or in some cavity of the earth, it hovers over the

spot for the space of a few seconds, (a circumstance to which Dr. Sparrman was twice eye-witness;) after which it sits in silence, and for the most part concealed, in some neighbouring tree or bush, in expectation of what may happen, and with a view of receiving its share of the booty. It is probable that this bird always hovers, more or less, in the manner just mentioned, over the bees' nest, before it hides itself; though the people do not always pay attention to this circumstance: at all events, however, one may be assured that the bees' nest is very near, when, after the bird has guided its followers to some distance, it is on a sudden silent.

Having, in consequence of the bird's directions, found and plundered the nest, the hunters, by way of acknowledgment, usually leave it a considerable share of that part of the comb in which the young bees are hatching; which is probably to the bird the most delicate morsel.

The above account of Dr. Sparrman has undergone some severe though ill-natured animadversions from the pen of Mr. Bruce. I shall insert them in his own words. "I cannot, (he says,) for my own part, conceive that, in a country where there are so many thousand hives, there was any use for giving to a bird a peculiar instinct or faculty of discovering honey, when, at the same time, nature hath deprived him of the power of availing himself of any advantage from the discovery; for man seems in this case to be made for the service of the Moroc, which is very different from the common and ordinary course of things: man certainly needs not this bird; for on every tree, and on every hillock, he may see plenty of honey at his own deliberate disposal. I cannot then but think, with all submission to these natural philosophers (Dr. Sparrman, and Jerome Lobo who has also given an account of this bird,) that the whole of this is an improbable fiction: nor did I ever hear a single person in Abyssinia suggest, that either this,

or any other bird, had such a property. Sparrman says it was not known to any inhabitant of the Cape, any more than that of the Moroc was in Abyssinia; it was a secret of nature hid from all but these two great men, and I most willingly leave it among the catalogue of their particular discoveries."

Dr. Sparrman says, that a nest which was shown to him as belonging to this bird, was composed of slender filaments of bark, woven together in the form of a bottle: the neck and opening hung downwards; and a string, in an arched shape, was suspended across the opening, fastened by the the two ends, perhaps for the bird to perch on.

Mr. Barrow, who in the years 1797 and 1798 travelled into the interior of the southern extremity of Africa, fully confirms the truth of Dr. Sparrman's account. He says, that every one there is too well acquainted with the Moroc to have any doubts as to the certainty either respecting the bird or its information of the repository of the bees. He tells us further, that it indicates to the inhabitants, with equal certainty, the dens of lions, tigers, hyænas, and other beasts of prey and noxious animals. M. Le Vaillant says that the Hottentots are very partial to the Moroc, on account of the service it renders them; and that once when he was about to shoot one, they on that account begged him to spare its life.

OF THE WOODPECKERS IN GENERAL.*

The Woodpeckers are a very singular race of birds, that live almost entirely on insects, which they pick out of decayed trees, and from the bark of such as are sound. These

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* The bill is straight, strong, and angular; and at the end, in most of the species, formed like a wedge, for the purpose of piercing the trees. The nostrils are covered with bristles. The tongue is very

they transfix and draw from the crevices by means of their tongue; which is bony at the end, barbed, and furnished with a curious apparatus of muscles for the purpose of throwing it forwards with great force. Their bill is also so strong and powerful, that by means of it they are able to perforate even such trees as are perfectly sound. In the holes which they thus make, they construct their nests. Their voice is acute, and very unpleasant.

THE BLACK WOODPECKER*.

The Black Woodpecker subsists on insects, which it catches on the bark of trees, or between the bark and wood. It darts out its long tongue, sometimes three or four inches beyond the bill, transfixes the insects with the end, and then with a very quick motion retracts it and swallows them. The feathers of the tail are very stiff; and so firmly set into the rump, that when the bird has fastened its claws into the inequalities of the bark, he places his strong tail feathers against it, and thus, standing as it were erect, forms a hole by means of its bill. It is able to pierce not only sound, but even hard trees, as the oak and hornbeam. The hole thus made is enlarged within, for the greater

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long, slender, cylindrical, bony, hard, and jagged at the end. The toes are placed two forward and two backward; and the tail consists of ten hard, stiff, and sharp-pointed feathers.

* DESCRIPTION. This bird weighs about eleven ounces. Its plumage is black; except the crown of the head, which is of a rich crimson. The head of the female is only marked with red behind.

It inhabits Switzerland, Germany, and several of the northern regions; and is migratory. It is sometimes, but very rarely, found in this country.

SYNONYMS. Picus Martius. *Linn.*—Pic Noir. *Buffon.*—Greatest Black Woodpecker. *Penn.*

convenience of depositing its nest. The damage it does to timber by this means is very great.

The female lays two or three white eggs. This bird has a very loud note; and feeds on caterpillars and insects.

THE WHITE-BILLED WOODPECKER *.

The Spanish settlers of South America have given to this bird the name of Carpenter, from the noise that it makes with its bill against the trees in the woods. This is heard at a great distance; and when several of them are at work together, the sound is not much unlike that proceeding from woodmen or carpenters. It rattles its bill against the sides of the orifice, till even the woods resound. A bushel of chips, a proof of its labours, is often to be found at the foot of the tree. On examination, its holes have been generally found of a winding form, the better to protect the nest from the effects of the weather.

Catesby (from whose writings the above account has been principally taken) says likewise, that the Canadian Indians make a kind of coronets with the bills of these birds, by setting them in a wreath with the points outwards; and that for this purpose they will purchase them at the rate of two or three buck-skins *per* bill.

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* Description. This species is about the size of a crow. The bill is white, three inches long, and channelled. On the head is a red pointed crest: the head itself and the body in general are black; but the lower part of the back, the rump, and upper tail-coverts, are white. From the eye a white stripe arises, and passes on each side of the neck down to the back.

It is found in Carolina, Virginia, and other parts of South America.

Synonyms. Picus principalis. *Linn.*—Grand Pic Noir à bec blanc. *Buff.*—Largest White-billed Woodpecker. *Catesby.*—White-billed Woodpecker. *Latham.*

THE RED-HEADED WOOD-PECKER *.

In various parts of America these Woodpeckers are extremely common; and few animals can be more destructive to the maize-fields and orchards, picking the ears of maize, and destroying vast quantities of apples. They attack the trees in flocks, and eat so much of the fruit that nothing but the skin is left. In some years they are much more numerous than in others. A premium of twopence *per* head was formerly paid from the public funds of some of the states, in order, if possible, to extirpate the breed: but this has been much neglected of late.

They remain during the whole year in Virginia and Carolina, but are by no means seen in such numbers in winter as during summer. In the winter they are very tame, and are frequently known to come into the houses, in the same manner as the redbreast does in England.

They build, like the other species, in holes that they form in the trees, but generally pretty high from the ground. It is said that the noise they make with their bills in this operation may be heard more than a mile.—Their flesh is by many people accounted good eating.

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* Description. This species is about nine inches long. The bill is about an inch and a quarter in length, of a lead colour with a black tip. The head and neck are of a most beautiful crimson; the back and wings black; the rump, breast, and belly, white; and the first ten quills black, the eleventh black and white, and the rest white with black shafts.

It inhabits Carolina, Canada, and most other parts of North America; migrating southwards according to the severity of the weather.

Synonyms. Picus Erythrocephalus. *Linn.*—Pic de Virginie. *Buff.*—Red-headed Woodpecker. *Latham.*

THE WRYNECK *.

This bird (for there is only one ascertained species of the tribe) is well known in most parts of England. In the form of its tongue and toes it resembles the Woodpeckers, but the slenderness of the bill prevents its being arranged immediately amongst them.

The female builds an artless nest in the holes of trees, and deposits in it eight or ten perfectly white eggs. Dr. Derham informs us, that although these birds are very far from being any way terrible, yet, when in danger, they have such singular contortions of their neck, and such odd motions with their head, that, when he was a boy, he used to be so much alarmed at them that he was entirely deterred from either taking their nests or touching the birds, daring no more to venture his hands into their holes, than if a serpent had lodged in them. The young ones, while in the nest, will also hiss like snakes; which may afford an additional preventive against the nest being plundered.

Their food consists principally of ants and other insects, of which they find great abundance lodged in the bark and crevices of trees. They also frequent grass plots and ant-

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* Description. The bill of the Wryneck is roundish, slightly curved, and weak. The nostrils are bare of feathers, and somewhat concave. The tongue is long, slender, and armed at the point. There are ten flexible feathers in the tail; and the feet are formed for climbing, the toes being placed two backward and two forward. This bird is about the size of a lark, and its plumage consists of different shades of brown, very elegantly blended together. The tail feathers are of a pale ash-colour, marked with black and red, and having four equi-distant bars of black.

Synonyms. Yunx torquilla. *Linn.*—Torcol. *Buffon.*—Barley Bird, in several parts of England.—*Bew. Birds, p.* 111.—*Penn. Brit. Zool. vol.* i. *tab.* 36.

bills; into which they dart their tongues, and from whence they draw out their prey. Mr. White, in his Naturalist's Calendar, tells us that these are so long as to coil round their heads.

The manners of this species were minutely examined by taking a female from her nest, and confining her in a cage for some days. A quantity of mould, with ants and their grubs, was given to her; and it was curious to observe the tongue darted forward and retracted, with such velocity, and such unerring aim, that it never returned without either an ant or a grub adhering to its viscous extremity, not transfixed by it, as is generally supposed. While feeding, the body was altogether motionless; the head only being turned; and the motion of the tongue was so rapid that the grubs, which were of a light colour, and were more conspicuous than the tongue, had somewhat the appearance of moving to the mouth by attraction, as a small particle of iron flies to a magnet. The bill was rarely used except to remove the mould in order to get more readily at the insects. Where the earth was hollow, the tongue was thrust into the cavities in order to rouse the ants: for this purpose the horny extremity is very serviceable, as a guide to it into the interior.

The Wryneck is a solitary bird, never being seen in any other society than that of its own mate: and even this is only transitory; for as soon as the domestic union is dissolved, which is in the month of September, each retires and migrates by itself, and does not return till the ensuing spring. The voice of these birds is much like that of the smaller species of hawks. They also sometimes make a noise like a grasshopper.

*OF THE NUT-HATCH TRIBE IN GENERAL**.

In the habits and manners of the different species of Nut-hatch, we observe a very close alliance to the Woodpeckers. Most of them feed upon insects; and some on nuts, whence their English appellation has been acquired.

THE EUROPEAN NUT-HATCH †.

The Nut-hatch, the squirrel, and the field-mouse, which all live much on hazel-nuts, have each a curious way of getting at the kernel. Of the two latter, the squirrel, after rasping off the small end, splits the shell in two with his long fore-teeth, as a man does with his knife; the field-mouse nibbles a hole with his teeth, as regular as if drilled with a whimble, and yet so small that one would

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* The characters of this tribe are, a bill for the most part straight, having on the lower mandible a small angle: small nostrils covered with bristles: a short tongue, horny at the end and jagged: toes placed three forward and one backward; the middle toe joined closely at the base to both the outer; and the back toe as large as the middle one.

† Description. The length of this bird is five inches and three quarters. The bill is strong and straight, about three quarters of an inch long; the upper mandible is black, and the lower white. All the upper parts of the body are of a bluish gray: the cheeks and chin are white; the breast and belly pale orange colour; and the quills dusky. The tail is short; and consists of twelve feathers, the two middle ones of which are gray, the two outer spotted with white, and the rest dusky. The legs are pale yellow; the claws are large, and the back one very strong.

Synonyms. Sitta Europea. *Linn.*—Sitelle, or Torche-pot. *Buff.*—Nut-hatch, or Nut-jobber. *Willughby.*—Woodcracker. *Plott.* —Nut-breaker. *Albin.*—European Nut-hatch. *Latham.*—*Bew. Birds, p.* 121.—*Penn. Brit. Zool. vol.* i. *p.* 38.

wonder how the kernel could be extracted through it; while the Nut-hatch picks an irregular ragged hole with his bill;—but as this last artist has no paws to hold the nut firm while he pierces it, he, like an adroit workman, fixes it, as it were in a vice, in some cleft of a tree, or in some crevice; when, standing over it, he perforates the stubborn shell. On placing nuts in the chink of a gate-post where Nut-hatches have been known to haunt, it has always been found that these birds have readily penetrated them. While at work they make a rapping noise, which may be heard at a considerable distance. Dr. Plott informs us that this bird, by putting its bill into a crack in the bough of a tree, sometimes makes a violent sound as if the branch was rending asunder. Besides nuts, it feeds also on caterpillars, beetles, and various other insects.

The female deposits her eggs, six or seven in number, in some hole of a tree, frequently in one that has been deserted by the woodpecker, on rotten wood mixed with moss. If the entrance be too large, she nicely stops up part of it with clay, leaving only a small hole for herself to pass in and out. While the hen is sitting, if a stick be put into the hole she hisses like a snake; and she is so much attached to her eggs, that she will sooner suffer any one to pluck off her feathers than fly away. During the time of incubation, she is assiduously attended by the male, who supplies her with food. If the barrier of plaster at the entrance of the hole be destroyed while these birds have eggs, it is speedily replaced; a peculiar instinct, to prevent their nest from being destroyed by the Woodpecker and other birds of superior size and strength, which build in similar situations.

The Nut-hatch is supposed not to sleep perched (like most other birds) on a twig; for it has been observed, that when kept in a cage, notwithstanding it would perch now and then, yet at night it generally crept into some hole or

corner to sleep: and it is remarkable that when perched, or otherwise at rest, it had mostly the head downwards, or at least even with the body, and not elevated like other birds.

These are shy and solitary birds. Like the Woodpeckers, they frequent woods, and run up and down the trees with surprising facility. They often move their tail in the manner of the wagtail.—They do not migrate; but during the winter season they approach nearer to inhabited places, and are sometimes seen in orchards and gardens.

OF THE KINGFISHER TRIBE IN GENERAL.*

These birds frequent the banks of rivers; living principally on fish, which they catch with great dexterity. They swallow their prey whole, but afterwards throw up the indigestible parts. Their wings are short; yet they fly very swiftly.

THE COMMON KINGFISHER †.

In the beauty and brilliancy of its plumage, the Common Kingfisher far excels all the other species of British birds. Its shape is, however, somewhat inelegant, from the great disproportion there is, in size, betwixt the head and bill, and the other parts of the body.

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* The bill is triangular, long, unbent, thick, and sharp. The tongue is fleshy, short, flat, and acute. The feet, except in a few species, are formed for climbing, with the toes two backward and two forward.

† DESCRIPTION. The length of the Kingfisher is seven inches, and its breadth eleven. The bill is nearly two inches long, and black; but the base of the lower mandible is yellow. The top of the head, and the sides of the body, are of a dark green, marked with transverse spots of blue. The tail is of a deep blue; and the

Its usual prey consists of the smaller kinds of fish. It sits frequently on a branch projecting over the current; there it remains motionless, and often watches whole hours to catch the moment when a little fish rises to the surface of the water under its station; it dives perpendicularly into the water, where it continues several seconds, and then brings up the fish, which it carries to land, beats to death, and afterwards swallows.

When the Kingfisher cannot find a projecting bough, it sits on some stone near the brink, or even on the gravel; but the moment it perceives the fish, it takes a spring upward of twelve or fifteen feet, and drops perpendicularly from that height. Often it is observed to stop short in its rapid course, and remain stationary, hovering (in a manner not unlike some of the hawk tribe) over the same spot for several seconds. Such is its mode in winter, when the muddy swell of the stream, or the thickness of the ice, constrains it to leave the rivers, and ply along the sides of the unfrozen brooks. At each pause it continues, as it were, suspended at the height of fifteen or twenty feet; and, when it would change its place, it sinks, and skims along within a foot of the surface of the water, then rises and halts again. This repeated and almost continual exercise shows that the bird dives for many small objects, fishes or insects, and often in vain; for in this way it passes over many a league.

"Kingfishers (says M. Gmelin) are seen all over Siberia; and their feathers are employed by the Tartars and the Ostiacs for many superstitious uses. The former pluck

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other parts of the body are dusky orange, white, and black. The legs are red.

SYNONYMS. Alcedo Ispida. *Linn.*—Martin pêcheur, ou Alcyon. *Buff.*—European Kingfisher. *Penn.*—Common Kingfisher. *Latham.* —*Penn. Brit. Zool. vol.* i. *tab.* 38.

them, cast them into water, and carefully preserve such as float; and they pretend, that if with one of these feathers they touch a woman, or even her clothes, she must fall in love with them. The Ostiacs take the skin, the bill, and the claws, of this bird, and shut them in a purse; and as long as they preserve this sort of amulet, they believe that they have no ill to fear. The person who taught me this means of living happy, could not forbear shedding tears: he told me that the loss of a Kingfisher's skin that he had, caused him to lose also his wife and his goods. I observed that such a bird could not be very rare, since a countryman of his had brought me one, with its skin and feathers: he was much surprised, and said that if he had the luck to find one he would give it to no person."

M. D'Aubenton was enabled to keep several of these birds for a considerable length of time, by supplying them with small fish, which he put into basons of water, and on which they fed. They refused all other kinds of nourishment.

The Kingfisher lays its eggs, to the number of seven or more, in a hole in the bank of the river or stream that it frequents. Dr. Heysham had a female brought alive to him at Carlisle, by a boy, who said he had taken it the preceding night when sitting on its eggs. His information on the subject was, that "having often observed these birds frequent a bank upon the river Peteril, he had watched them carefully, and at last saw them go into a small hole in the bank. The hole was too narrow to admit his hand; but as it was made in soft mould, he easily enlarged it. It was upwards of half a yard long: at the end of it, the eggs, which were six in number, were placed upon the bare mould, without the smallest appearance of a nest." The eggs were considerably larger than those of the yellow-hammer, and of a transparent white colour.—It appears from a still later account than this,

that the direction of the holes is always upward; that they are enlarged at the end: and have there a kind of bedding formed of the bones of small fish, and some other substances, evidently the castings of the parent animals. This is generally about half an inch thick, and mixed in with earth. There is every reason to believe, that both male and female come to this spot for no other purpose than to eject the refuse of their food, for some time before the latter begins to lay: and that they dry it by the heat of their bodies; as they are frequently known to continue in the hole for hours, long before the period of laying. On this disgorged matter the female deposits and hatches her eggs. When the young ones are nearly full-feathered, they are extremely voracious; and the old birds not supplying them with all the food they can devour, they are continually chirping, and may be discovered by their noise.

It was once believed that, when the body of a Kingfisher was suspended by a thread, some magnetic influence always turned its breast to the north. This, however, is as fabulous as the tradition, that it will preserve woollen cloth from the depredations of moths.

*OF THE CREEPER TRIBE IN GENERAL**.

The Creepers are dispersed through most countries of the globe. They feed chiefly on insects, in search of which they run up and down the stems and branches of trees. Most of the species breed in hollows of trees, where they lay many eggs.

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* The bills of these birds are curved, slender, and pointed. The tongue is generally acute, (though sometimes flat,) fringed, or tubular. The legs are strong, and formed with three toes forward.

THE COMMON CREEPER †.

Except the humming-bird, this is the smallest of all the feathered tribes; its weight being no more than five drachms. The length of its feathers, and the manner that it has of ruffling them, give it however an appearance much beyond its real size. It is a bird which seems peculiarly fond of the society of man; and it must be confessed, that in some parts of the world it is often protected by his interested care. From observing its utility in destroying insects, it has long been a custom, in many parts of the United States, to fix a small box at the end of a long pole, in gardens and about houses, as a place for it to build in. In these boxes the animals form their nest, and hatch their young ones; which the parent birds feed with a variety of different insects, particularly those species that are injurious in gardens. A gentleman, who was at the trouble of watching these birds, for the purpose, observed that the parents generally went from the nest and returned with insects from forty to sixty times in an hour, and that, in one particular hour, they carried food no fewer than seventy-one times. In this business they were

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† Description. The bill of this bird is hooked; and its legs are slender, with the claws very long, to enable it to creep up and down the bodies of trees in search of insects. Its colour is a mixed gray, with the under parts white. The quill feathers of the wings are brown, and several of them are tipped with white. The tail is long, and consists of twelve stiff feathers.

It is found both in Europe and Asia; and is also very common in some parts of North America, particularly in the neighbourhood of Philadelphia.

Synonyms. Certhia familiaris. *Linn.*—Grimpereau. *Buff.*—Ox-eye Creeper. *Charlton.*—*Bew. Birds, p.* 125.—*Penn. Brit. Zool. vol.* i. *tab.* 39.

engaged during the greater part of the day. Allowing twelve hours to be thus occupied, a single pair of these birds would destroy at least six hundred insects in the course of one day; on the supposition that the two birds took only a single insect each time. But it is highly probable that they often took more.

I suspect that it is this bird which Mr. St. John has called a *Wren*, recording the following story of its bravery and selfishness. Three birds had built their nests almost contiguous to each other. A swallow had affixed hers in the corner of a piazza next his house; a bird which he calls a Phebe in the other corner: and a Wren possessed a little box, which he had made on purpose, and hung between. These were all quite tame. The Wren had, for some time, shown signs of dislike to the box which had been given to it, though it was not known on what account. At length, however, it resolved, small as it was, to drive the Swallow from its habitation; and, astonishing to say, it succeeded. "Impudence," says Mr. St. John, "gets the better of modesty; and this exploit was no sooner performed, than the Wren removed every material to its own box with the most admirable dexterity. The signs of triumph appeared very visible: it fluttered with its wings with uncommon velocity; and an universal joy was perceivable in all its movements. The peaceable Swallow, like the passive Quaker, meekly sat at a small distance, and never offered the least opposition. But no sooner was the plunder carried away, than the injured bird went to work with unabated ardour, and in a few days the depredations were repaired." Mr. St. John, to prevent any repetition of the same violence, removed the Wren's box to another part of the house.

In America, the Creeper hatches twice during the summer, and has generally from eighteen to twenty eggs at a time.

THE RED CREEPER*.

This diminutive inhabitant of New Spain, smaller even than the last-mentioned species, I mention merely for the purpose of describing its nest; which, differing in this respect from those of most of the other species of Creepers, is pensile.

The nest is formed not unlike a chemist's retort placed with the mouth downwards, through which the bird ascends to its offspring in the bulb at the top. Its length is fourteen or sixteen inches; and it is suspended to the most extreme and tender branches of the trees, by means of a kind of woven work, of the same materials as the exterior of the nest. In the broadest part of the bulb, it measures about six inches in diameter. Within, it is lined with soft and downy materials, to guard the bodies of the tender young ones from injury; and it is altogether so very light, as to be driven about by the most gentle breeze.

OF THE HUMMING-BIRDS IN GENERAL†.

The Humming-Birds are the most diminutive of all the feathered tribes. They are natives of the warmer parts of America, and of some of the West-India islands; and bear a great resemblance to each other in manners. Their

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* SYNONYMS. Certhia Mexicana. *Linn.*—Oiseau Rouge à bec de Grimpereau. *Buff.*

† The characters of this tribe are, a slender weak bill, incurvated in some species, in others straight: the nostrils minute: the tongue very long, and formed of two conjoined cylindrical tubes: the legs weak: the toes placed three forward and one backward: and the tail consisting of ten feathers.

principal food is the nectar at the bottom of the tubular flowers; which they extract, like bees, while on the wing, by means of their long and slender bill. Their name is derived from the humming noise they make with their wings, which is even louder than their voice. They are gregarious; and construct an elegant hemispherical nest, in which they lay two small white eggs, that are hatched by the sitting of the male and female alternately. The young ones are often attacked and devoured by spiders.—These birds may be caught by blowing water upon them from a tube; or, like many of our small birds, they may be shot with sand.—Small as they are, they are extremely bold and pugnacious; and their flight is very rapid. Their colours are too brilliant to be expressed by any pencil.

THE RED-THROATED HUMMING-BIRD*.

The length of this diminutive creature is a little more than three inches; of which its bill occupies three quarters of an inch. The male is of a green-gold colour on the upper part, with a changeable copper gloss; and the under parts are gray. The throat and fore-part of the neck are of a ruby colour; in some lights as bright as fire. When viewed sideways, the feathers appear mixed with gold, and beneath they are of a dull garnet colour. The two middle feathers of the tail are the same as the upper plumage, and the rest are brown.

Who can paint
Like Nature? Can imagination boast,
Amid its gay creation, hues like these?

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* SYNONYMS. Trochilus colubris. *Linn.*—Rubis. *Buff.*—Humming-Bird. *Catesby.*—Red-throated Honeysucker. *Penn.*—Red-throated Humming-Bird. *Latham.*

The female, instead of the bright ruby throat, has only a few obscure brown spots; and all the outer tail feathers, which in the male are plain, are in the female tipped with white.

This beautiful little creature is as admirable for its vast swiftness in the air, and its manner of feeding, as for the elegance and brilliancy of its colours.

It flies so swiftly, that the eye is incapable of following its course; and the motion of its wings is so rapid, as to be imperceptible to the nicest observer. Lightning is scarcely more transient than its flight, nor the glare more bright than its colours.

It never feeds but upon the wing, suspended over the flower, from which it extracts nourishment: for its only food is the honeyed juice lodged in the nectaria of flowers, which it sucks through the tubes of its curious tongue. Like the bee, having exhausted the honey of one flower, it wanders to the next in search of new sweets. It admires most those flowers that have the deepest tubes; and, in the countries which these birds inhabit, whoever sets plants of this description before his windows, is sure to be visited by multitudes of them. It is very entertaining to see them swarming around the flowers, and trying every tube by putting in their bills. If they find that their brethren have anticipated them, and robbed the flower of its honey, they will in a rage pluck it off, and throw it on the ground; and sometimes they tear it in pieces.

The most violent passions animate at times these diminutive creatures. They have often dreadful contests, when numbers happen to dispute the possession of the same flower. They will tilt against one another with such fury, as if they meant to transfix their antagonists with their long bills. During the fight they frequently pursue the conquered into the apartments of those houses whose windows are left open; take a turn round the room, as flies

do in England; and then suddenly regain the open air. They are fearless of mankind; and, in feeding, will suffer persons to come within two yards of them; but, on a nearer approach, they dart away with wonderful swiftness. Mr. St. John says, that their contentions oftentimes last till one or other of the combatants is killed.

The Red-throated Humming-Bird most frequently builds on the middle of a branch * of a tree; and the nest is so small, that it cannot be seen by a person who stands on the ground. Whoever, therefore, is desirous of inspecting it, must get up to the branch, in order that he may view it from above: it is from this reason that the nests are not more frequently found. The nest is quite round: the outside for the most part composed of the green moss common on old pales and trees; and the inside, of the softest vegetable down the birds can collect. Sometimes, however, they vary the texture; using flax, hemp, hairs, and other similar materials. The female lays two eggs, of the size of a pea; which are white, and equal in thickness at both ends.

Ferdinandez Oviedo, an author of great repute, speaks, from his own knowledge, of the spirited instinct even of these diminutivee birds in defence of their young ones: "When they observe any one climbing the tree in which they have their nests, they attack him in the face, attempting to strike him in the eyes, and coming, going, and returning, with such swiftness, that a man would scarcely credit it who had not seen it himself."

The Humming-Bird is seldom caught alive; a friend of

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* This is not, however, always the case; as they are often known to take up their abode in some low bush, or even a tobacco-stalk: the nests have also been seen fixed to the side of a pod of Ocra (*Hibiscus esculentus* of Linnæus.)

M. du Pratz had, however, this pleasure. He had observed one of them enter the bell of a Convolvulus; and, as it had quite buried itself to get at the bottom, he ran immediately to the place, shut the flower, cut it from the stalk, and carried off the bird a prisoner. He could not, however, prevail upon it to eat; and it died in the course of three or four days.

Charlevoix informs us, that he had one of them in Canada for about twenty-four hours. It suffered itself to be handled; and even counterfeited death, that it might escape. A slight frost in the night destroyed it.

"My friend Captain Davies informs me," says Dr. Latham, in his Synopsis, "that he kept these birds alive for four months by the following method:—He made an exact representation of some of the tubular flowers, with paper fastened round a tobacco-pipe, and painted them of a proper colour: these were placed in the order of nature, in the cage in which the little creatures were confined: the bottoms of the tubes were filled with a mixture of brown sugar and water, as often as emptied; and he had the pleasure of seeing them perform every action; for they soon grew familiar, and took their nourishment in the same manner as when ranging at large, though close under the eye."

Passerine Birds *.

OF THE STARE TRIBE IN GENERAL †.

There are, belonging to this tribe, about twenty known species, some of which are found exclusively upon the Old, and others upon the New Continent; two only are natives of this kingdom. They chiefly feed on insects and worms.

THE STARLING ‡.

In the winter season these birds collect in vast flocks, and may be known at a great distance by their whirling mode of flight; which the Comte de Buffon compares to a sort of vortex, in which the collective body performs an uniformly circular revolution, and at the same time continues to make a progressive advance. The evening is the time when Starlings assemble in the greatest numbers,

* The birds of this order have their bill of a conical form, and pointed at the end; and the feet are formed for perching and hopping, the toes being slender and divided, with slender, bent, and sharp claws.

† In the present tribe the bill is straight, and depressed. The nostrils are guarded above by a prominent rim. The tongue is hard and cloven; and the middle toe is connected to the outermost as far as the first joint.

‡ Few birds are more generally known than the Starling; being an inhabitant of almost all climates, and sufficiently common in every part of England.

Synonyms. Sturnus vulgaris. *Linn.*—L'Etourneau. *Buff.*—Stare. *Penn.*—Stare or Starling. *Will.*—*Bew. Birds,* i. 88.

and betake themselves to the fens and marshes. In the fens of Lincolnshire they collect in myriads, and do great damage to the inhabitants by roosting on the reeds, (these being the thatch of that country,) and breaking them down by their weight.

They chatter much in the evening and morning, both when they assemble and disperse. So attached are they to society, that they not only join those of their own species, but also birds of a different kind, and are frequently seen in company with redwings, fieldfares, and even with owls, jackdaws, and pigeons. Their principal food consists of snails, worms, and insects: they likewise eat various kinds of grain, seeds, and fruit, and are said to be particularly fond of cherries. It is reported of them that they get into pigeon-houses for the purpose of sucking the eggs.

The female builds an artless nest, of straw and small fibres, in the hollows of trees, rocks, or old walls, and sometimes in cliffs overhanging the sea. She lays four or five eggs, of a pale greenish ash-colour.—The young birds are of a dusky brown colour till they first moult.

The Starling is a familiar bird, and in a state of captivity is easily trained. Its natural voice is strong and hoarse; but it may be taught without difficulty to repeat short sentences, or whistle tunes with great exactness. In a state of confinement it will eat small pieces of raw flesh, or bread soked in water.

THE WATER OUZEL*.

This bird frequents the banks of springs and brooks, which it never leaves; preferring the limpid streams whose

* DESCRIPTION. The Water Ouzel is in size somewhat less than the blackbird. Its bill is black, and almost straight. The eye-

fall is rapid, and whose bed is broken with stones and fragments of rocks.

Its habits are singular. Aquatic birds, with palmated feet, swim or dive; those which inhabit the shores, without wetting their body, wade with their tall legs; but the Water Ouzel walks quite into the flood, following the declivity of the ground. It is observed to enter by degrees, till the water reaches its neck; and it still advances, holding its head not higher than usual, though completely immersed. It continues to walk under the water; and even descends to the bottom, where it saunters as on a dry bank. The following is M. Herbert's account of this extraordinary habit, which he communicated to the Comte de Buffon:

"I lay concealed on the verge of the lake Nantua, in a hut formed of pine-branches and snow; where I was waiting till a boat, which was rowing on the lake, should drive some wild ducks to the water's edge. Before me was a small inlet, the bottom of which gently shelved, that might be about two or three feet deep in the middle. A Water Ouzel stopped here more than an hour, and I had full leisure to view its manœuvres. It entered into the water, disappeared, and again emerged on the other side of the inlet, which it thus repeatedly forded. It traversed the whole of the bottom, and seemed not to have changed its element, and discovered no hesitation or reluctance in the immersion. However, I perceived several times, that as often as it waded deeper than the knee, it displayed its

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lids are white. The upper parts of the head and neck are of a deep brown; and the rest of the upper parts, the belly, vent, and tail, are black. The chin, the fore part of the neck, and breast, are white or yellowish. The legs are black.

Synonyms. Sturnus cinclus. *Linn.*—Merle d'eau. *Buff.*—Water Ouzel, Water Crake. *Penn.*—Water Crow or Piet. *Montagu.*

wings, and allowed them to hang to the ground. I remarked too, that when I could discern it at the bottom of the water, it appeared enveloped with air, which gave it a brilliant surface; like some sorts of beetles, which in water are always enclosed in a bubble of air. Its view in dropping its wings, on entering the water, might be to confine this air; it was certainly never without some, and it seemed to quiver. These singular habits were unknown to all the sportsmen with whom I talked on the subject; and, perhaps, without the accident of the snow-hut in which I was concealed, I should also have for ever remained ignorant of them; but the above facts I can aver, as the bird came quite to my feet, and that I might observe it, I refrained from killing it."

This bird is found in many parts of Europe. The female makes her nest on the ground, in some mossy bank near the water, of hay and dried fibres, lining it with dry oak-leaves, and forming to it a portico or entrance of moss. The eggs are five in number; white, tinged with a fine blush of red. A pair of these birds, which had for many years built under a small wooden bridge in Caermarthenshire, were found to have a nest early in May: this was taken, but it contained no eggs, although the bird flew out of it at the time. In a fortnight after, they had completed another nest in the same place, enclosing five eggs, which was taken: and, in a month after this, a third nest, under the same bridge, was taken, that had in it four eggs; undoubtedly the work of the same birds, as no others were seen about that part. At the time the last nest was taken, the female was sitting; and the instant she quitted it she plunged into the water, and disappeared for a considerable time, till at last she emerged at a great distance down the stream. At another time, a nest of the Water Ouzel was found in a steep projecting bank (over a rivulet) clothed with moss. The nest was so well adapted

to the surrounding materials, that nothing but one of the old birds flying in with a fish in its bill could have led to the discovery. The young ones were nearly feathered, but incapable of flight; and the moment the nest was disturbed, they fluttered out and dropped into the water, and, to the astonishment of the persons present, instantly vanished, but in a little time re-appeared at some distance down the stream; and it was with difficulty that two out of the five were taken.

The Water Ouzel will sometimes pick up insects at the edge of the water. When disturbed, it usually flirts up its tail, and makes a chirping noise. Its song in spring is said to be very pretty. In some places it is supposed to be migratory.

OF THE THRUSH TRIBE IN GENERAL.*

Most of the species of Thrush, which are very numerous, feed upon berries and other kinds of fruit. They are stated to be particularly fond of the berries of the juniper. Many of them have a melodious song.

THE SONG-THRUSH, OR THROSTLE†.

The song of this bird is heard during nearly nine months of the year. The compass of its voice is very considerable, and when brought up from the nest with woodlarks,

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* The Thrushes have the following generic character: a straightish bill, bending towards the point, and slightly notched near the end of the upper mandible: the nostrils oval, and for the most part naked: the tongue slightly jagged at the end: the corners of the mouth furnished with a few slender hairs: and the middle toe connected to the outer one as far as the first joint.

† SYNONYMS. Turdus musicus. *Linnæus.*—La Grive. *Buffon.*—Throstle, Thrush, or Mavis, in England.

or even with nightingales, it is capable of adopting their notes. Few of the choristers of the woods are heard with greater delight than this. It will sometimes sit for hours together on the top of an elevated tree, and make the woods re-echo with its song.

With us the Thrush continues to reside through the whole year, but on the Continent it is migratory, usually disappearing during the frosts, and re-appearing for a short visit in the months of March and April, before its migration in May.

These birds occasionally breed twice, and sometimes even thrice in the year, if, by accident, their former hatches may have been destroyed. Their nests are built in woods or orchards, and not unfrequently in thick hedges near the ground. The outside of the nest consists of fine and soft moss, interwoven with dried grass or hay; and the inside is curiously plaistered with cow-dung. The eggs are usually five or six in number, of a deep blue colour, marked with black spots. Each brood, for a little while, follows separately its parents, but this does not long continue, for, as soon as the individuals are capable of obtaining their own subsistence, they disperse.

We are informed by the Comte de Buffon, that in a few of the districts of Poland such immense numbers of Thrushes are sometimes caught, that the inhabitants load small vessels with them for exportation.

THE FIELDFARE*.

Fieldfares, which are well-known winter inhabitants of this island, arrive here in great flocks from Russia, Siberia, and other more northern parts of the continent, about the

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* SYNONYMS. Turdus pilaris. *Linn.*—Littorne, ou Tourdelle. *Buff.*—*Bew. Birds, p.* 98.

beginning of October, and feed during that season on the hawthorn, holly, and other berries. They leave us in March, for their breeding-places in Sweden and Norway.

As, during the time they are with us, they are associated in flocks, and are in a foreign country, they have evident marks of keeping a kind of watch, to remark and announce the appearance of danger. On our approaching a tree that is covered with them, they continue fearless, till one at the extremity of the bush, rising on his wings, gives a loud and peculiar note of alarm; when they all immediately fly, except one other, who continues till the person approaches still nearer, to certify, as it were, the reality of the danger, and then he also flies off, repeating the note of alarm.

Though they build their nests in high trees, and sit on trees in the day-time, yet they always roost on the ground. They were held in high esteem by the Roman epicures; who had them in their aviaries, and fattened them with crumbs of bread mixed with minced figs.

THE BLACKBIRD *.

The food of the Blackbird consists principally of worms and shelled snails; the latter of which, in order to get at the animal, it dashes with great dexterity against the stones. All kinds of insects, as well as fruit, it also eagerly seeks after. In confinement it will eat crumbs of bread; and even flesh, either raw or cooked.

This is a solitary bird; never congregating, and in general preferring woods and retired situations. Its song is a shrill kind of whistle of various notes; which, although extremely fine, is too loud for any place except woods or

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* Synonyms. Turdus Merula. *Linn.*—Merle. *Buff.*—Amsel. *Montagu.*—*Bew. Birds*, p. 94.—*Penn. Brit. Zool. vol.* i. *tab.* 42.

open grounds. It commences this early in the spring, and continues it through some part of the summer; it desists during the moulting season, but resumes it, for some time, in September and the first winter months.

Blackbirds breed early in the spring. They prepare a nest composed externally of green moss, fibrous roots, and other similar materials: the inside is plastered with earth, and afterwards lined with fine dry grass. The nest is usually placed in a thick bush, or against the side of a tree, or on a stump in the side of a bank. The female lays four or five light-blue eggs: thickly covered with pale rust-coloured spots, particularly at the large end.

When the young ones are taken from the nest, they should for some time be fed on raw meat, bread, and bruised hempseed: the meat should be chopped small, the bread a little wetted, and then the whole mixed together. It is necessary to keep them very neat and clean.

THE MOCKING BIRD, OR MIMIC THRUSH *.

This capricious little mimic is common throughout nearly the whole of North America, as well as in several of the West India Islands. It cannot, indeed, vie with the feathered inhabitants of those countries in brilliancy of plumage; but it is contented with much more rare and estimable qualifications. It possesses not only natural notes of its own, which are truly musical and solemn; but it can at pleasure assume the tone of every other animal in the

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* Description. This bird is about the size of a blackbird, but, in its general form, is somewhat more slender. Its plumage is gray, paler on the under parts of the body than above.

Synonyms. Turdus Polyglottus. *Linn.*—Grand Moqueur. *Buff.*—Singing Bird, Mocking Bird, or Nightingale. *Sloane.*—Mock Bird, *Catesby.*—Mimic Thrush. *Penn.*

forest, from the humming bird to the eagle, and descending even to the wolf or the raven. One of them, confined in a cage, has been heard to mimic the mewing of a cat, the chattering of a magpie, and the creaking of the hinges of a sign-post in high winds.

The Mocking Bird seems to have a singular pleasure in leading other birds astray. He is said at one time to allure the smaller birds with the call of their mates; and when they come near, to terrify them with the scream of an eagle. There is scarcely a bird of the forest that is not at some time or other deceived by his call.

But he is not like the mimics among mankind, who seldom possess any independent merit. A Garrick and a Foote have not pleased more in their own characters, than the Mocking Bird does in his. He is the only one of the American singing birds that can be compared with those of Europe; and, were it not for the attention that he pays to every sort of disagreeable noise which tends to debase his best notes, there can be little doubt that he would be fully equal to the song of the nightingale in its whole compass. He frequents the dwellings of the American farmers; where, sitting on the roof or chimney, he sometimes pours forth the most sweet and varied notes imaginable. The Mexicans, on account of his various notes and his imitative powers, call him "The Bird of Four Hundred Tongues." In the warmer parts of America he sings incessantly from March to August, both day and night; beginning with his own compositions, and frequently finishing by borrowing from the whole feathered choir. He repeats his tunes with such artful sweetness as to excite both pleasure and surprise.

It is not, however, in the powers of voice alone that these birds are pleasing; they may even be said to dance. When excited into a kind of ecstasy by their own music, they gradually raise themselves from the place where they stand,

and, with their wings extended, drop with their head down to the same spot, and whirl round, accompanying their melody with a variety of interesting gesticulations.

They frequently build their nests in the bushes or fruit-trees about houses; but they are so shy, that if a person only looks at the nest they immediately forsake it. The young may be brought up in a cage, and rendered domestic; but this is not to be done without great difficulty, not one attempt in ten being successful for that purpose. If the young ones are caught in the nest, the mother will feed them for a few days, but is sure to desert them afterwards. If a cat happens to approach the nest, the parent bird will fly at the head of the animal, and with a hissing noise scare it away.

It feeds its young ones with grasshoppers; and when it wants any of these insects, it flies into the pastures, flaps its wings near the ground, and makes a booty of three or four at a time, with which it returns to the nest. It also feeds on different kinds of berries; and is itself eaten by the Americans, who account it very delicate food.

THE LOCUST-EATING THRUSH *.

To this new species, which is found in the interior of the South of Africa, and only met with in places where the Migrating locusts † frequent, Mr. Barrow has affixed the specific name of *Gryllivorus*. This has been done with

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* Description. The head, breast, and back, are of a pale ash-colour, and the abdomen and rump white. The wings and tail are black; the latter short, and a little forked. From the angle of the mouth a naked area of sulphureous yellow extends under the eye, and a little beyond it; and there are two naked black streaks under the throat.

Synonym. Turdus Gryllivorus. *Barrow.*

† *Gryllus migratorius* of Linnæus.

great propriety, as, when such is to be obtained, its whole food seems to consist of the larvæ of this insect; and, except when the locust infests any particular district, this bird is seldom to be found there.

Nature, which has not often given a bane without accompanying it with an antidote, seems to have peculiarly ordained this bird as a relief to the inhabitants of the country where it is found, from the dreadful attacks of these most voracious and most numerous of all insects. But, however astonishing the multitudes of locusts may be, the numbers of Gryllivori are not less so. Their nests, which at a distance seem of a most enormous size, appear on examination to consist of a number of cells, each of which forms a separate nest, with a tube that leads into it through the side; so that what seemed but one great nest, is found to consist of a little republic of perhaps ten or twenty. One roof of interwoven twigs covers the whole, like that made over the nest of the magpie of our country.

Mr. Barrow saw a vast number of these in the district of Sneuwberg, about 150 leagues north-east of the Cape. The Gryllivori had not visited that colony for thirteen years before; that is to say, since the last time the locusts had infested it. These birds had, he says, taken up a temporary abode here, in a place which they were not likely, in a short space of time, to be under the necessity of quitting for want of food. Of the innumerable multitudes of the incomplete insects or larvæ of the locusts, that at this time infected this part of Africa, no adequate idea could possibly be formed; for in an area of nearly two thousand square miles, the whole surface of the earth might literally be said to be covered with them.

The Gryllivori attended closely the last flight of locusts, and departed along with them; since which time, till the year 1797, that in which Mr. Barrow visited Africa, not one of them was to be found in the country.

OF THE GROSBEAKS IN GENERAL.

In the Grosbeaks we observe a strong, thick, and convex beak; rounded from the base to the point of each mandible, and admirably adapted for breaking in pieces the shells of the seeds on which they feed. The nostrils are small and round; and the tongue is formed as if the end was cut off. The toes, except in one species, are placed three forwards.

THE CROSS-BILL *.

Doctor Townson, whilst he resided at Gottingen, had several Cross-bills; which, by kind treatment, soon becoming tame, he suffered to be at liberty in his study. He had thus constant opportunities of observing them, and as often of admiring their docility and sagacity; but the singular structure of their bills chiefly engaged his attention.

This structure the Comte de Buffon, perhaps unthinkingly, and certainly unjustly, has considered as one of Nature's freaks, calculated to render the bird much less essential service than a beak in some other form would have done. But notwithstanding the apparently awkward and useless shape of this member, it has been found, on attentively watching the manners of the bird, to have the best possible adaption to its destination and habits.

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* Description. The male Cross-bills are red, varied with brown or green; and at certain seasons of the year they change to a deep red, to orange, or pale yellow. The females are of an olive green, which they also change occasionally.

Synonyms. Loxia curvirostra. *Linn.*—Bec croisé. *Buff.*—Shell Apple, or Cross-bill. *Penn.*—Cross-beak. *Townson.*—*Bew. Birds*, p. 130.

The two mandibles do not lie straight; but pass, for a considerable part of their length, on the side of each other, like the blades of a pair of scissars. By means of this peculiar construction, the Cross-bills are able to procure their food with the utmost address. They live principally on the seeds in the cones of the fir or pine; and it is to extract these that this structure is principally adapted. In this operation, they fix themselves across the cone, then bring the points of the beak from their crossed or lateral position to be immediately over each other. In this reduced compass, they insinuate it between the scales, and, distending the two mandibles to their usual position sideways, force the scales open; and then again bringing the points into contact, pick out the seed, in the same manner as if their bills had the form of those of other birds *.

The degree of lateral force which they are able to exert, is very surprising: and they are at times fond of exercising it for mere amusement; which renders them, in a tame state, not a little mischievous. Those which Dr. Townson had at Gottingen would often come to his table while he was writing, and carry off his pencils, little chip boxes in which he occasionally kept insects, and other similar objects, and tear them to pieces almost instantaneously. Their mode of operation was first to peck a little hole, to insert into this their bill, and then split or tear the object by the lateral force. When he gave them, as he often did, almonds in their shells, they got at the kernel in the same manner; first pecking a hole, and then enlarging this by wrenching off the pieces by the lateral force.

Notwithstanding the apparent awkwardness of this beak,

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* While in this act, they are so intent on the business, as frequently to suffer themselves to be taken by means of a horse-hair noose fixed to a long fishing-rod. They are discovered by the twittering noise they make while feeding.

they are able, by bringing the mandibles point to point, even to pick up and eat the smallest seeds. The German bird-catchers usually feed them with poppy and other small seeds; and they shell hemp-seeds in eating them as well as any other birds whatever.—These birds breed in Austria; building their hemispherical nests in the branches of high trees, in which they lay a few whitish eggs, spotted towards the thicker end with red. They are somewhat rare in this country.

THE GREENFINCH *.

Greenfinches are very common birds in our island. They build their nests in hedges, and lay five or six eggs, of a pale green, marked with blood-coloured spots. During the breeding time, the bird that is not immediately engaged in incubation or nutrition, may often be seen sporting on the wing, in a pleasing manner, over the bush.

They are so easily tamed, as frequently to eat out of the hand in five or ten minutes after they are taken, if there is an opportunity of immediately carrying them into the dark. The bird should then be put upon the finger, from which, not knowing how to fly in the dark, it will not attempt to move: the finger of the other hand should afterwards be put under its breast, on which it will climb. This must be repeated eight or ten times; and, by stroking and caressing the bird at the intervals, it will find that no injury

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* Description. The upper parts of the body are of a yellowish green, and some of the lower parts white. The outer quill feathers are edged with yellow. The tail is forked, and the four lateral feathers are yellow at the base. The bill is brownish, and the legs flesh-coloured.

Synonyms. Loxi Chloris. *Linn.*—Verdier. *Buff.*—*Bew. Birds, p.* 136.

is intended to it. The light being then let in by degrees, it will very frequently eat bruised seed out of the hand, and afterwards continue tame.

THE CARDINAL GROSBEAK *.

This is an inhabitant of several parts of North America; and from the melody of its song, which is said somewhat to resemble that of the nightingale, some of the Americans give it the same name. In spring and during great part of the summer, it sits on the tops of the highest trees, and with its loud and piercing notes makes the forests echo.

The Cardinal Grosbeaks are chiefly remarkable for laying up, during summer, their winter provision of maize and buck-wheat. Nearly a bushel of maize has been found in the retreat of one of these birds, artfully covered with leaves and small branches of trees, and only a small hole left for the bird to enter at.

The inhabitants frequently keep them in cages; where they will sing, with a very short interval of silence, through the whole year.

THE GRENADIER GROSBEAK †.

The Cape of Good Hope, and some other parts of Africa, are frequented by this bird; which is supposed to be the

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* Description. The Cardinal Grosbeak is about eight inches in length. The bill is stout, and of a pale red colour. On the head there is a pointed crest: the plumage is in general of a fine red, but round the bill and throat it is black. The legs are of the same colour as the bill.

Synonyms. Loxia Cardinalis. *Linn.*—Grosbec de Virginie. *Buff.*—Red Grosbeak. *Albin.*—Cardinal Grosbeak. *Latham.*

† Description. The Grenadier Grosbeak is of about the size of a sparrow. The body is in general of a beautiful red colour. The

Finch described by Kolben in his account of the Cape. He says it is chiefly found in marshy and reedy grounds, where it makes its nest and produces its offspring. The nest is formed among the reeds with small twigs, interwoven so closely with cotton as not to be penetrated by any weather. It is also divided into two compartments; of which the upper is for the male, and the lower for the female and the young ones. In winter, he further informs us, these birds change from scarlet to ash-colour.

The appearance of these birds among the green reeds of their native climates is said to have a wonderful effect; for, from the extreme brightness of their colours, they appear like so many scarlet lilies.

THE ABYSSINIAN* AND PHILIPPINE GROSBEAK†.

The Abyssinian Grosbeak forms a curious nest, of pyramidal shape; which is suspended from the ends of branches, like the nests of some others of this tribe. The opening is on one side, facing the East: the cavity is separated in the middle by a partition to half its height; up this

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forehead, sides of the head, chin, breast, and belly, are black. The wings are brown, and the legs pale brown.

SYNONYMS. Loxia Orix. *Linn.*—Cardinal du Cap de Bonne Espérance. *Buff.*—Grenadier Grosbeak. *Latham.*

* DESCRIPTION. This is somewhat larger than the last species; having the bill strong and black; the head, throat, and breast, black; the upper parts of the body, the belly, and thighs, of pale yellowish brown; the quills and tail brown, edged with yellow; and the legs reddish gray.

SYNONYMS. Loxia Abyssinica. *Linn.*—Grosbec d'Abissinie. *Buff.*—Tisserin d'Abissinie. *Daudin.*

† DESCRIPTION. The length of the present species is about five inches and a half. The bill and some adjacent parts are brown. The top of the head, and the hind part of the neck and back, are yellow. The

the bird ascends perpendicularly, and then, descending on the other side, forms its nest in the further chamber. By this means the brood is defended from snakes, squirrels, monkies, and other mischievous animals; besides being secured from the rains, which in that country last sometimes for five or six months together.

The Philippine Grosbeaks construct their nests in the form of a long cylinder, swelling out into a globular or somewhat oval shape. This is composed of various kinds of fine vegetable fibres, and fastened, by its upper extremity, to the outer branch of a tree. The entrance is from beneath, from whence a passage is made to the globular cavity in which an inner nest and the eggs are placed in perfect security.

THE BENGAL GROSBEAK *.

This bird, says Sir William Jones, in the Asiatic Researches, is exceedingly common in Hindostan. He is astonishingly sensible, faithful, and docile; never voluntarily deserting the place where his young ones are hatched, but not averse, like most other birds, to the society of

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The lower part of the back is brown. The fore parts of the neck and breast are yellow, and from thence under the belly the colour is yellowish white. The legs are also yellowish.

It is found in the Philippine Islands, and in some parts of Abyssinia.

SYNONYMS. Loxia Philippina. *Linn.*—Toucnam Courvi. *Buff.*

* DESCRIPTION. This bird is somewhat larger than a sparrow. Its general plumage is yellow brown. The head and legs are yellowish. The beak is conical, and very thick in proportion to the body.

SYNONYMS. Loxia Bengalensis. *Linn.*—Orchef. *Buff.*—Bengal Sparrow. *Albin.*—Yellow-headed Indian Sparrow. *Edwards.*—Indian Grosbeak, Bayas. *Asiat. Res.*

mankind, and easily taught to perch on the hand of his master. In a state of nature he generally builds his nest on the highest tree that he can find, especially on the palmyra, or on the Indian fig-tree, and he prefers that which happens to overhang a well or a rivulet: he makes it of grass, which he weaves like cloth, and shapes like a large bottle, suspending it firmly on the branches, but so as to rock with the wind, and placing it with its entrance downward, to secure it from birds of prey. His nest usually consists of two or three chambers; and it is popularly believed that he lights them with fire-flies, which he is said to catch alive at night, and confine with moist clay or with cow-dung. That such flies are often found in his nest, where pieces of cow-dung are also stuck, is indubitable; but as their light could be of little use to him, it seems probable that he only feeds on them.

He may be taught with ease to fetch a piece of paper, or any small thing that his master points out to him. It is an attested fact, that if a ring be dropped into a deep well, and a signal given to him, he will fly down with amazing celerity, catch the ring before it touches the water, and bring it up to his master with apparent exultation; and it is confidently asserted, that if a house or any other place be shown to him once or twice, he will carry a note thither immediately, on a proper signal being made. One instance of his docility Sir William Jones was himself an eye-witness of. The young Hindoo women at Benares, and in other places, wear thin plates of gold, called *ticas*, slightly fixed, by way of ornament, between their eyebrows; and, when they pass through the streets, it is not uncommon for the youthful libertines, who amuse themselves with training these birds, to give them a signal, which they understand, and send them to pluck the pieces of gold from the foreheads of their mistresses, which they bring in triumph to their lovers.

THE SOCIABLE GROSBEAK *.

Few birds live together in such large societies, or have a mode of nidification so uncommon, as these. They build their nests in a species of mimosa; which grows to an uncommon size, and seems well suited to them, on account of its ample head, and strong wide-spreading branches, well calculated to admit and support the extensive mansion they have to erect upon it. The tallness and smoothness of its trunk is also a perfect defence against the serpent and monkey tribes. The mode in which the nests are fabricated is highly curious. In one tree, described by Mr. Paterson, there could not be fewer than from eight hundred to a thousand under one general roof. Mr. P. calls it a roof, because he says it resembles that of a thatched house; and projects over the entrance of the nest below, in a very singular manner. The industry of these birds "seems almost equal (says this traveller) to that of the bee. Throughout the day they appear to be busily employed in carrying a fine species of grass; which is the principal material they employ for the purpose of erecting this extraordinary work, as well as for additions and repairs. Though my short stay in the country was not sufficient to satisfy me, by ocular proof, that they added to their nest as they annually increased in numbers; still, from the many trees which I have seen borne down by the weight,

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* Description. The length of the Sociable Grosbeak is about five inches and a half. Its colour is rufous-brown above, and beneath yellowish. The bill and forehead are black, the region of the the ears is yellowish, and the legs are brown. The tail is short.

This species is an inhabitant of the interior country of the Cape of Good Hope.

Synonyms. Loxia socia. *Latham.*—Tisserin républicain. *Daudin.*

and others which I have observed with their boughs completely covered over, it would appear that this is really the case. When the tree which is the support of this aërial city is obliged to give way to the increase of weight, it is obvious that they are no longer protected, and are under the necessity of rebuilding in other trees. One of these deserted nests I had the curiosity to break down, to inform myself of the internal structure of it; and found it equally ingenious with that of the external. There are many entrances; each of which forms a regular street, with nests on both sides, at about two inches distance from each other. The grass with which they build is called the Boshman's-grass: and I believe the seed of it to be their principal food; though, on examining their nests, I found the wings and legs of different insects. From every appearance, the nest which I dissected had been inhabited for many years; and some parts of it were much more complete than others. This, therefore, I conceive to amount nearly to a proof, that the animals added to it at different times, as they found necessary, from the increase of the family, or rather of the nation or community."

THE BULFINCH *.

In a state of nature the Bulfinch has but three cries, all of which are unpleasant: but if man deigns to instruct it methodically, and accustom it to finer, mellower, and more lengthened strains, it will listen with attention; and the docile bird, whether male or female, without relinquishing its native airs, will imitate exactly, and sometimes even surpass, its master. "I know a curious person (says the

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* Synonyms. Loxia Pyrrhula. *Linn.*—Bouvreuil. *Buff.*—Bulfinch, Alp, or Nope. *Willughby.*—Red-hoop, Tony-hoop. *Montagu.*—*Bew. Birds, p.* 138.

author of the *Ædonologie,*) who having whistled some airs quite plain to a Bulfinch, was agreeably surprised to hear the bird add such graceful turns, that the master could scarcely recognise his own music, and acknowledged that the scholar excelled him." It must, however, be confessed, that, if the Bulfinch be ill-directed, it acquires harsh strains. A friend of the Comte de Buffon saw one that had never heard any person whistle but carters; and it whistled like them, with the same strength and coarseness. The Bulfinch also learns easily to articulate words and sentences; and utters them with so tender an accent, that we might almost suppose it felt their force.

These birds are, besides, susceptible of personal attachment, which is often strong and durable.—Some have been known, after escaping and living a whole year in the woods, to recognise the voice of their mistress, and return to forsake her no more. Others have died of melancholy, on being removed from the first object of their attachment. They will also remember injuries received: a Bulfinch that had been thrown to the ground in its cage by some of the rabble, though it did not appear much affected at the time, fell into convulsions ever afterwards at the sight of any mean-looking person, and expired in one of these fits eight months after its first accident.

Bulfinches are not uncommon in England; where they construct their nests in bushes, about the middle of May. These are usually built in orchards, woods, or parks, where the trees are numerous. The nest of the Bulfinch is a fabric apparently constructed with little art; but it so nearly resembles the colour of the surrounding foliage, as not easily to be discovered. The female lays four or five eggs, of a bluish colour, marked at the larger end with dark brown and faintly reddish spots.

In the summer time these birds frequent chiefly woods and retired places; but in the winter they approach gardens

and orchards. Here, as soon as the vegetation commences, they make great havoc among the buds of the trees.

OF THE FINCH TRIBE IN GENERAL.

The Finches are readily distinguished from other birds, by their having a very conical and sharp-pointed bill, which is somewhat slender towards the end. They are a numerous and active race, dispersed very widely over the world, and feeding principally on insects and grain.

THE LINNET*.

For the sweetness of its song the Linnet is much admired, its note being considered little inferior to that of the most musical of our birds. It may also easily be taught to imitate the song of any other bird, if brought up with it from the nest.

Linnets have young ones about the month of May. They usually form their nest in a thick bush or hedge. This is small: the outside composed of bents, dried weeds,

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* DESCRIPTION. The length of the Linnet is about 5½ inches. The bill is bluish gray. The eyes are hazel: the upper parts of the head, neck, and back, are of a dark reddish brown, the edges of the feathers pale; the under parts are of a dirty reddish white; the breast is deeper than the rest, and in spring becomes of a very beautiful crimson; the sides are spotted with brown; the quills are dusky, edged with white; the tail is brown, likewise with white edges, except the two middle feathers, which have reddish margins; it is somewhat forked; the legs are brown: the female wants the red on the breast, instead of which it is marked with streaks of brown; she has less white on her wings, and her colours, in general, are less bright. *Bewick.*

SYNONYMS. Fringilla linaria. *Linn.*—La Linotte. *Buff.*—*Bew. Birds*, p. 176.

and straw; and the inside of horse-hairs, and wool or cotton, mixed with downy materials collected from dried plants. The female lays four or five white eggs, speckled, particularly towards the large end, with red.

The season in which the bird-catchers usually take these birds, is during the months of June, July, and August, or about Michaelmas. They employ for this purpose limed twigs or clap-nets. If, when caught, they are put into store cages, and fed on any favourite seed, for two or three days, with a little fine hemp-seed ground or bruised, they will soon become tame. After this they may be put into separate cages, and fed with rape or canary seed. If it is intended that the Linnet should imitate the notes of any other bird, it ought to be taken from the nest when about ten days old.

THE COMMON SPARROW *.

No bird is better known in every part of Great Britain than the Sparrow; which frequents our habitations, and is seldom absent from our gardens or fields. It is a very familiar bird, but so crafty as not to be easily taken in snares.

In a wild state its note is only a chirp: this arises, however, not from want of powers, but from its attending solely to the note of the parent birds. A Sparrow, when fledged, was taken from the nest, and educated under a linnet: it also heard, by accident, a goldfinch; and its song was, in consequence, a mixture of the two.

Few birds are more execrated by the farmers, and perhaps more unjustly so, than Sparrows. It is true, they do some injury in our rural economy; but they have been

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* SYNONYMS. Fringilla domestica. *Linn.*—Moineau franc. *Buff.*—House-Sparrow. *Willughby.*—*Bew. Birds, p.* 154.

fully proved to be much more useful than they are noxious. Mr. Bradley, in his General Treatise on Husbandry and Gardening, shows, that a pair of Sparrows, during the time they have their young to feed, destroy on an average, every week, 3360 caterpillars. This calculation he founded upon actual observation. He discovered that the two parents carried to the nest forty caterpillars in an hour. He supposed the Sparrows to enter the nest only during twelve hours each day, which would cause a daily consumption of 480 caterpillars. This sum gives 3360 caterpillars extirpated weekly from a garden. But the utility of these birds is not limited to this circumstance alone; for they likewise feed their young with butterflies and other winged insects, each of which, if not destroyed in this manner, would be the parent of hundreds of caterpillars.

Sparrows build early in the Spring; generally forming their nests under the eaves of houses, and in holes in the walls. When such convenient situations are not to be had, they build in the trees a nest bigger than a man's head, with an opening like a mouth at the side, resembling that of a magpie,—except that it is formed of straw and hay, and lined with feathers, and so nicely managed as to be a defence both against wind and rain. They likewise sometimes form their nest in the bottoms of rooks' nests; and this seems a favourite situation with them.

Mr. Smellie relates a pleasing anecdote of the affection of these birds towards their young:—"When I was a boy, (says this gentleman,) I carried off a nest of young Sparrows, about a mile from my place of residence. After the nest was completely moved, and while I was marching home with them in triumph, I perceived, with some degree of astonishment, both parents following me at some distance, and observing my motions in perfect silence. A thought then struck me, that they might follow me home, and feed the young according to their usual manner,

When just entering the door I held up the nest, and made the young ones utter the cry which is expressive of the desire of food. I immediately put the nest and the young in the corner of a wire cage, and placed it on the outside of a window. I chose a situation in the room where I could perceive all that should happen, without being myself seen. The young animals soon cried for food. In a short time both parents, having their bills filled with small caterpillars, came to the cage; and after chatting a little, as we would do with a friend through the lattice of a prison, gave a small worm to each. This parental intercourse continued regularly for some time; till the young were completely fledged, and had acquired a considerable degree of strength. I then took one of the strongest of them, and placed him on the outside of the cage, in order to observe the conduct of the parents after one of their offspring was emancipated. In a few minutes both parents arrived, loaded, as usual, with food. They no sooner perceived that one of their children had escaped from prison, than they fluttered about, and made a thousand noisy demonstrations of joy, both with their wings and their voices. These tumultuous expressions of unexpected happiness at last gave place to a more calm and soothing conversation. By their voices and their movements it was evident that they earnestly entreated him to follow them, and to fly from his present dangerous state. He seemed to be impatient to obey their mandates; but, by his gestures, and the feeble sounds he uttered, he plainly expressed that he was afraid to try an exertion he had never before attempted.—They, however, incessantly repeated their solicitations; by flying alternately from the cage to a neighbouring chimney-top, they endeavoured to show him how easily the journey was to be accomplished. He at last committed himself to the air, and alighted in safety. Upon his arrival, another scene of clamorous and active joy was exhibited. Next day I

repeated the same experiment, by exposing another of the young on the top of the cage. I observed the same conduct with the remainder of the brood, which consisted of four. I need hardly add, that not one either of the parents or children ever afterwards re-visited the execrated cage."

THE GOLDFINCH*.

Goldfinches are very beautiful and well-known birds; much esteemed for their docility, and the sweetness of their note. They are fond of orchards, and frequently build their elegant mossy nest in an apple- or pear-tree. They commence this operation about the month of April, when the fruit-trees are in blossom. As they excel nearly all our small birds in beauty of plumage, so also they do in the art which they employ in the formation of this structure. The nest is small: its outside consists of fine moss curiously interwoven with other soft materials; and the inside is lined with grass, horse-hair, wool, feathers, and down. The eggs are five in number, of a white colour, speckled and marked with reddish brown.

These birds may be caught in great numbers, at almost any season of the year, either with limed twigs, or the clap-net; but the best time is said to be about Michaelmas. They are readily tamed; and are remarkable for their extreme docility, and the attention they pay to instructions. It requires very little trouble to teach them to perform several movements with accuracy; to fire a cracker, and to draw up small cups containing their food and drink. For this last purpose, they must have, fastened round them, a small belt of soft leather, two lines broad,

* Synonyms. Fringilla carduelis. *Linn.*—Chardonneret.—*Buff.* —Goldfinch, or Thistlefinch. *Willughby.*—*Bew. Birds*, p. 165.

with four holes, through which the feet and wings are passed; and the ends, joining under the belly, are to be held by a ring which supports the chain and cup.

Some years ago the Sieur Roman exhibited in this coun- the wonderful performances of his birds. These were Goldfinches, Linnets, and Canary-birds.—One appeared dead, and was held up by the tail or claw without exhibiting any signs of life. A second stood on its head, with its claws in the air. A third imitated a Dutch milkmaid going to market, with pails on its shoulders. A fourth mimicked a Venetian girl looking out at a window. A fifth appeared as a soldier, and mounted guard as a sentinel. The sixth was a cannoneer, with a cap on its head, a firelock on its shoulder, and a match in its claw; and discharged a small cannon. The same bird also acted as if it had been wounded: it was wheeled in a little barrow, to convey it (as it were) to the hospital; after which it flew away before the company. The seventh turned a kind of windmill. And the last bird stood in the midst of some fire-works which were discharged all round it; and this without exhibiting the least sign of fear.

In solitude the Goldfinch delights to view its image in a mirror; fancying, probably, that it sees another of its own species: and this attachment to society seems to equal the cravings of nature; for it is often observed to pick up the hemp-seed, grain by grain, and advance to eat it at the mirror, imagining, no doubt, that it is thus feeding in company.

If a young Goldfinch be educated under a canary-bird, a woodlark, or any other singing bird, it will readily catch their song. Mr. Albin mentions a lady who had a Goldfinch which was even able to speak several words with great distinctness.

Towards winter these birds usually assemble in flocks. They feed on various kinds of seeds, but are more partial

to those of the thistle than any others. They sometimes have been known to attain a great age. Willughby speaks of one that was twenty-three years old; and Albin says, that they not unfrequently arrive at the age of twenty years.

THE CANARY-FINCH*.

If, observes the Comte de Buffon, the nightingale is the songster of the woods, the Canary-bird must be considered as the musician of the chamber. It is a social and familiar bird, capable of recollecting kindnesses, and even of some degree of attachment towards those by whom it is fed and attended. In a state of nature we know but little of its manners and economy. Like the rest of its tribe, it feeds chiefly on seed and different kinds of grain. It inhabits the woods of Italy, Greece, and the Canary islands; from the latter of which it appears to have been first brought into Europe, about the middle of the fourteenth century. These birds are now, however, so commonly bred in our own country, that we are not often under the necessity of crossing the ocean for them.

It is by no means commonly known, that the song of the Canary-bird is usually composed either of the titlark's or the nightingale's notes. Mr. Barrington saw two of the birds which came from the Canary-islands, neither of which had any song at all; and he was informed that a ship afterwards brought over a great many of them with the same defect. Most of the birds that are imported from the Tyrol, have been educated under parents, the progenitors of which were instructed by a nightingale. Our

* Synonyms. Fringilla Canaria. *Linn.*—Serin des Canaries. *Buff.*—Canary-bird. *Willughby.*

English Canary-birds have, however, more of the titlark's than of the nightingale's notes.

Dr. Darwin relates a very singular anecdote respecting one of these birds:—"On observing (says he) a Canary-bird at the house of Mr. Hervey, near Tetbury, in Derbyshire, I was told it always fainted away when its cage was cleaned; and I desired to see the experiment. The cage being taken from the ceiling, and the bottom drawn out, the bird began to tremble, and turned quite white about the root of its bill: he then opened his mouth as if for breath, and respired quick, stood up straighter on his perch, hung his wings, spread his tail, closed his eyes, and appeared quite stiff and cataleptic for nearly half an hour; and at length, with much trembling and deep respirations, came gradually to himself."

OF THE FLY CATCHERS IN GENERAL.

The characters of this genus are a bill flatted at the base, almost triangular, notched at the end of the upper mandible, and beset with bristles. The toes in most of the species are divided as far as the origin.

THE SPOTTED FLY CATCHER*.

This is one of the most mute, and most familiar, of all our summer birds. It visits us in spring, brings forth its young ones among us, and disappears in September.

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* DESCRIPTION. The length of this species is about four inches and three quarters: the bill is dusky and beset with short bristles: the head and back are light brown, obscurely spotted with black: the wings and tail are dusky, and the former edged with white: the breast and belly are white: the throat, sides, and under the wings, are tinged with red; and the legs are black.

SYNONYMS Musicapa Grisola. *Linn.*—Gobe-Mouche. *Buff.*

Mr. White says, that a pair of these birds built every year in the vines that grew on the walls of his house at Selborne. They one year inadvertently placed their nest on a naked bough, perhaps in a shady time, not being aware of the inconvenience that followed; but a hot, sunny season coming on before the brood was half fledged, the reflection of the wall became insupportable, and must inevitably have destroyed the tender young, had not affection suggested an expedient, and prompted the parent birds to hover over the nest all the hotter hours, while, with wings expanded, and mouths gaping for breath, they screened off the heat from their suffering offspring.

The female lays four or five eggs: the nest is carelessly made, and consists chiefly of moss, mixed with wool and fibres, so strong, and "so large, (says the Comte de Buffon,) that it appears surprising how so small an artificer could make use of such stubborn materials." When its offspring are able to fly, it retires with them among the higher branches of the trees, sinking and rising perpendicularly among the flies which hum below.

This bird feeds on insects, which it catches on the wing. It sometimes watches for its prey sitting on a branch or post, and with a sudden spring takes it as it flies, and then immediately returns to its station to wait for more. It is said, likewise, to be fond of some kinds of fruit. It is generally believed to have no song. The Rev. Revett Sheppard, however, informs me, that in the garden belonging to the master of Caius College, Cambridge, one of them used frequently to sit on a rail, and entertain him with its notes, which, he says, were very pleasing, and between those of a wagtail and golden-crested Wren.

—Stoparola. *Ray.*—Cobweb. *Morton.*—Rafter, Bee-bird, Cherry-sucker, Chanchider. *Montagu.*

OF THE LARKS IN GENERAL.

In this tribe the bill is straight, slender, bending a little towards the end, and sharp-pointed. The nostrils are covered with feathers and bristles; and the tongue is cloven at the end. The toes are divided to the origin; and the claw of the back toe is very long, and either straight or very little bent.

THE SKY-LARK*.

The Sky-lark forms its nest on the ground, generally between two clods of earth, and lines it with dried grass and roots. In this the female lays four or five eggs, which are hatched in about a fortnight; and she generally produces two broods in the year.

When hatched, the mother watches over them with a truly maternal affection; she may then be seen fluttering over their heads, directing their motions, anticipating their wants, and guarding them from danger.

The instinctive warmth of attachment which the female Sky-lark bears to her offspring, often discovers itself at a very early period, and even before she is capable of becoming a mother; which might be supposed to precede, in the order of nature, the maternal solicitude. "A young hen bird (says the Comte de Buffon) was brought to me in the month of May, which was not able to feed without assistance. I caused her to be educated; and she was hardly fledged, when I received from another place a nest of three or four unfledged Sky-larks. She took a strong

* Synonyms. Alauda Arvensis. *Linn.*—Alouette. *Buff.*—Field-lark or Sky-lark. *Penn.*—*Bew. Birds, p.* 178.

liking to these new-comers, which were scarcely younger than herself; she tended them night and day, cherished them beneath her wings, and fed them with her bill. Nothing could interrupt her tender offices. If the young ones were torn from her, she flew to them as soon as she was liberated, and would not think of effecting her own escape, which she might have done a hundred times. Her affection grew upon her: she neglected food and drink; she now required the same support as her adopted offspring, and expired at last, consumed with maternal anxiety. None of the young ones survived her. They died one after another; so essential were her cares, which were equally tender and judicious."

The common food of the young Sky-larks is worms and insects; but after they are grown up they live chiefly on seeds, herbage, and most other vegetable substances.

They are easily tamed, and become so familiar as to eat off the table, and even alight on the hand; but they cannot cling by the toes, on account of the form of the hinder toe, which is too long and straight. This is the reason why they never perch on trees.

The Lark commences his song early in spring, and continues it during the whole of the summer. It is heard chiefly in the morning and evening, and it is one of those few birds that chant their mellow notes on the wing. Thomson elegantly describes it as the leader of the warbling choir:—

Up springs the Lark,
Shrill-voic'd and loud, the messenger of morn:
Ere yet the shadows fly, he, mounted, sings
Amid the dawning clouds, and from their haunts
Calls up the tuneful nations.

The Lark mounts almost perpendicularly, and by successive springs, into the air; where it hovers at a vast

height. Its descent is in an oblique direction; unless threatened by some ravenous bird of prey, or attracted by its mate, when it drops to the ground like a stone. On its first leaving the earth, its notes are feeble and interrupted; but, as it rises, they gradually swell to their full tone. There is something in the concomitant scenery, that renders the music of the Lark peculiarly delightful. The placid landscape and various rural charms, all contribute to heighten our relish for its pleasing song.

These birds become musical in the spring, and continue so for several months; but in winter their song forsakes them. They then assemble in flocks, grow fat, and are caught in vast numbers by the bird-catchers. As many as four thousand dozen have been taken in the neighbourhood of Dunstable, between September and February; but this holds no proportion to what are sometimes caught in different parts of Germany, where there is an *excise* upon them. Keysler says, that the excise alone produced six thousand dollars (about nine hundred pounds sterling) every year to the city of Leipsic; the Larks of which place are famous all over Germany, as being of a most delicate flavour. But it is not only at Leipsic that they are taken in such numbers; they are also extremely abundant in the country about Naumburg, Merseburg, Halle, and other parts.

Those that are caught in the day-time are taken in clap-nets, of fifteen yards in length, and two and a half in breadth; and are enticed by means of bits of looking-glass fixed in a piece of wood, and placed in the middle of the nets. These are put into a quick whirling motion, by a string which the larker commands; he also makes use of a decoy bird. This kind of net is used only till the fourteenth of November; for the Larks will not frolic in the air, and of course cannot be inveigled in this man-

ner, except in fine sunny weather. When the weather grows gloomy, the larker changes his engine; and makes use of a trammel-net, twenty-seven or twenty-eight feet long, and five broad; which is put on two poles, eighteen feet long, and carried by men, who pass over the fields, and quarter the ground as a setting-dog would. When they hear or feel that a Lark has hit the net, they drop it down, and thus the birds are taken.

THE WOODLARK *.

In many respects, both of habit and appearance, these birds differ from the sky-lark. They perch as well in trees as on the ground; but this they do only on the largest branches, where they are able to secure their hold without positively embracing the stems with their toes. The sky-lark forms its nest amongst grass or corn, and the Woodlark usually at the foot of a bush, near the bottom

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* Description. The Woodlark is somewhat smaller than the sky-lark, and its form is shorter and more thick. The crown of the head and the back are marked with large black spots, edged with pale reddish brown. The head is surrounded with a whitish coronet of feathers, reaching from eye to eye. The throat is of a yellowish white, spotted with black. The breast is tinged with red; the belly is white; and the coverts of the wings are brown, edged with white and dull yellow. The quill-feathers are dusky; the exterior edges of the first white, and of the others yellow; and their tips are blunt and white. The first feather of the wing is shorter than the second: in the skylark they are nearly equal. The tail is black, the outermost feather tipped with white: the exterior web, and the inner side of the interior web, are also white; in the second feather the exterior web only is white. The legs are of a dull yellow.

Synonyms. Alauda arborea. *Linnæus.*—Le Cujelier. *Buffon.*—*Bew. Birds, vol.* i. *p.* 189.

of a hedge, or in lays where the grass is rank and dry. The fabric is of loose texture, and constructed of withered herbs, and fibrous roots, with a few horse-hairs in the inside. It has scarcely any hollow, the bottom being nearly on a level with the sides. The whole nest is not oftentimes much more than half an ounce in weight. The number of eggs is about four; these are of a pale bloom colour, beautifully mottled, and clouded with red and yellow.

The young birds are tender, and not easily to be reared in a cage. When first taken from the nest, they should be fed with raw sheep's heart, or other lean fresh meat, mixed with hard boiled egg, a little bread, and bruised hemp-seed. These must be chopped together as fine as possible, and moistened with water.

From what circumstance these birds have obtained the appellation of Woodlarks, unless it be from their building in thickets, is difficult to say; since, like the common species, they are for the most part found only on large and cultivated plains.

Their song is stated more to resemble that of the nightingale than of the skylark. They sing not only in the day time, but during the night; not only whilst they are in flight, but also when perched upon the trees. Like the skylarks, they assemble in considerable flocks during frosty weather. Their usual food consists of small beetles, caterpillars, and other insects, as well as of the seeds of numerous kinds of wild plants.

THE GRASSHOPPER LARK *.

Nothing, says the Rev. Mr. White, can be more amusing than the sibilous whisper of this little bird, which

* Description. This is a very small species. Its bill is slender and dusky. The upper parts of the body are of a variegated greenish-

seems to be close by, though it may be an hundred yards distant; and, when close at your ear, is scarcely any louder than when a great way off. It usually begins its note about the middle of April, and did we not know that the Grasshopper species are not yet hatched, it would not be easy to persuade one's self that the note uttered by this lark was in reality the note of a bird.

During the season of love, the male has great delight in uttering its song from some bush adjacent to its nest. Its warbling is extremely simple, but at the same time is sweet, and by no means inharmonious. These birds also sing during their flight.

They are artful little creatures, generally skulking in the thickest part of the bushes, and sometimes singing at the distance of little more than a yard from any person, provided they are concealed. Mr. White, speaking of one of them, says, that he was under the necessity of desiring a person to go on the other side of a hedge that it haunted. The bird even then ran before them, creeping like a mouse, for more than a hundred yards, through the bottom of the thorns, yet it could not be compelled to come into their sight. Yet this bird, early in a morning, and when undisturbed, would sing on the top of a twig, gaping and shivering its wings with great apparent delight.

The nest of the Grasshopper Lark is formed in some solitary place, and generally concealed under some green turf. The eggs are seldom more than five in number, and these are marked towards the large end with brown. The young ones are not unfrequently devoured by snakes.

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brown. The under parts are of a yellowish-white, speckled irregularly on the neck and breast. The feathers of the wings and tail are of a palish dusky brown. The tail is long, and somewhat wedge-shaped.

SYNONYMS. Alauda trivialis. *Linnæus.* — L'Alouette Pipi. *Buffon.*

Although these birds are able to perch on small twigs, yet their hinder claw, as in most of the other species, is of considerable length: their hold is chiefly fixed by means of the three anterior toes.

*OF THE WARBLERS IN GENERAL**.

Most of these birds prey on insects. Some of them are gregarious, and migrate on the approach of the cold weather to warmer climates. This is a very extensive tribe, containing in the whole above a hundred and seventy species, of which our own country boasts nearly twenty.

THE NIGHTINGALE†.

The Nightingale, though greatly and deservedly esteemed for the excellence of its song, is not remarkable for variety or richness of colours. It usually leaves us about the middle of September, in order, as it is supposed, to retire to the distant regions of Asia. It returns regularly in the commencement of April, and about a month afterwards begins to construct its nest. The females hatch twice, and sometimes even three times, in the season.

It is very remarkable, that all the gay and brilliant

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* The Warblers have a weak and slender bill; small and somewhat depressed nostrils; and the tongue is cloven at the end. The exterior toe is joined beneath to the base of the middle one.

† DESCRIPTION. The length of the Nightingale is about six inches. The upper parts of the body are of a rusty brown colour, tinged with olive; the under parts are of a pale ash-colour, almost white at the throat and belly.

SYNONYMS. Motacilla Luscinia. *Linn.*—Le Rossignol. *Buff.* *Bew. Birds, p.* 199.

birds of America should be entirely destitute of that pleasing power of song which gives so peculiar a charm to the groves and fields of Europe. One of our most elegant poets has beautifully expressed the supposed superiority of our island in this respect:

> Nor envy we the gaudy robes they lent
> Proud Montezuma's realm, whose legions cast
> A boundless radiance waving on the sun,
> While Philomel is ours; while in our shades,
> Through the soft silence of the list'ning night,
> The sober-suited songstress trills her lay.

The Nightingale seems to have been fixed upon almost universally as the most exquisite of singing-birds; which superiority it certainly may boldly challenge. One reason, however, of this bird's being more attended to than others is, that it sings in the night. Hence, Shakespeare says,

> The Nightingale, if she should sing by day,
> When ev'ry goose is cackling, would be thought
> No better a musician than the wren.

Mr. Barrington once kept a very fine Nightingale for three years, during which time he paid a particular attention to its song. Its tone was infinitely more mellow than that of any other bird; though at the same time, by a proper exertion, it could be excessively brilliant. When this bird *sang its song round*, in its whole compass, he observed sixteen different beginnings and closes; at the same time that the intermediate notes were commonly varied in their succession with so much judgment, as to produce a most pleasing variety.—Another point of superiority in the Nightingale, is its continuance of song without a pause; which Mr. Barrington observed to be sometimes not less than twenty seconds. Whenever

respiration, however, became necessary, it was taken with as much judgment as by an opera singer.

In this place it may be remarked, that Nightingales in general, in a wild state, do not sing above ten weeks in the year; while those confined in a cage continue their song for nine or ten months; and a caged Nightingale sings much more sweetly than those which we hear abroad in the spring. The lat er, as the bird-fanciers term it, are so *rank*, that they seldom sing any thing but short and loud jerks; which, consequently, cannot be compared to the notes of a caged bird, since the instrument is thus overstrained.

The music of the Nightingale, when out of doors, and with the corresponding darkness and scenery, has always been considered as plaintive or melancholy; and sometimes as even conveying ideas of distress.

> Flet noctem; ramoque sedens, miserabile carmen
> Integrat, et mœstis latè loca questibus implet.
>
> Darkling she wails the sadly pleasing strains,
> And melancholy music fills the plains.

From the dissections of several birds made by Mr. John Hunter, at the request of the Hon. Daines Barrington, it appeared that in the best singers the muscles of the larynx were the strongest. Those in the Nightingale were stronger than in any other bird of the same size.—When we consider the size of many singing birds, it is really amazing to what a distance their notes can be heard. It is supposed that those of a Nightingale may be heard above half a mile, if the evening be calm.

Nightingales will adopt the notes of other birds; and they will even chant the stiff airs of a Nightingale-pipe. They may be instructed to sing by turns with a chorus, and to repeat their couplet at the proper time. Mr. Stackhouse, of Pendarvis in Cornwall, informs me that he has

remarked of the Nightingale that it will modulate its voice to any given key: he says, if any person whistle a note to it, the bird will immediately try, in its strain, an unison with it. Nightingales may also be taught to articulate words. The sons of the emperor Claudius, according to Pliny, had some Nightingales that spoke Greek and Latin. But what that author subjoins is more marvellous, that these birds prepared every day new expressions, and even of considerable length, with which they entertained their masters. The arts of flattery might work upon the understandings of young princes; but a philosopher like Pliny ought not to have credited such a story, nor to have published it under the sanction of his name. Several authors, accordingly, resting on the authority of the Roman naturalist, have amplified the marvellous tale. Gesner, among others, quotes a letter from a person of credit (as he states,) who mentions two Nightingales belonging to an innkeeper at Ratisbon, which passed the night in discoursing, in German, on the political interests of Europe—on the events that had already happened, and on those that might be expected, and that afterwards actually took place. It is true that the author of the letter endeavours to render the story more probable, by telling us that the birds only repeated what they had heard from some officers or deputies of the diet, who frequented the tavern; but still the whole is so absurd as to merit no serious remark.

Nightingales are solitary birds; never associating in flocks like many of the smaller birds, but hiding themselves in the thickest parts of hedges and bushes, and seldom singing but during the night.

The London bird-catchers take them in a net-trap, (somewhat larger than a cabbage net,) the bottom of which is surrounded with an iron ring. This is baited with a meal-worm from the baker's shop; and ten or a dozen have been sometimes caught in a day by this means.

THE PENSILE WARBLER *.

The sagacity displayed by this bird in building and placing its nest, is truly remarkable. She does not fix it at the forking of the branches, as is usual with most other birds; but suspends it to binders hanging from the netting which she forms from tree to tree, especially those which fall from branches that hang over the rivers and deep ravines. The nest consists of dry blades of grass, the ribs of leaves, and exceedingly small roots, interwoven with the greatest art; it is fastened on, or rather it is worked into, the pendent strings. It is in fact a small bed, rolled into a ball, so thick and compacted as to exclude the rain; and it rocks in the wind without receiving any harm.

But the elements are not the only enemies against which this bird has to struggle: with wonderful sagacity it provides for the protection of its nest from other accidents. The opening is neither made on the top nor side of the nest, but at the bottom. Nor is the entrance direct. After the bird has made its way into the vestibule, it must pass over a kind of partition, and through another aperture, before it descends into the abode of its family. This lodgment is round and soft; being lined with a species of lichen, which grows on the trees, or with the silky down of plants.

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* Description. The Pensile Warbler is nearly five inches long. The bill is dusky; the head grayish black; and the back deep gray. Round the eye there is a white streak, and between that and the bill a range of yellow dots. The throat, neck, and breast, are yellow. The belly is white; and the sides of the neck and body are dotted with black spots. The wing-coverts are white and black, in bands. The tail is dark gray, having the four outer feathers marked with large spots of white.

Synonyms. Motacilla Pensilis. *Linn.*—Cou-jaune. *Buffon.*—Pensile Warbler, *Latham.*

The birds of this species have a very delicate song, which is continued throughout the year. They are natives of St. Domingo, and some other of the West Indian islands, where they feed chiefly on insects and fruit.

THE COMMON WAGTAIL *.

These active and lively little birds run about the sides of ponds and small streams, in search of insects and worms; and in the spring and autumn are constant attendants on the plough, for the sake of the worms thrown up by that instrument.

The generality of the Wagtails disappear in the autumn; but how they dispose of themselves during the winter, is somewhat difficult to account for. They are often to be seen even in the middle of winter. If there happens to be a fine day, and the sun shines bright, they are sure to make their appearance; chirping briskly, and seeming delighted with the fine weather, though they had not perhaps been seen for three weeks or a month before.—Whence then do they come? Certainly not from a far-distant country; there not being time for a very long journey in the space of a single day; and, besides, they never seem to be tired or lifeless, but are very brisk and lively on such occasions.

THE WHEAT-EAR †.

This bird visits England annually in the middle of March, and leaves us in September. The females come

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* SYNONYMS. Motacilla alba. *Linn.*—Lavandiere. *Buff.*—White Wagtail. *Penn.*—Black and White Water-Wagtail, Pied Wagtail. *Bewick.*—*Bew. Birds, p.* 188.—*Penn. Brit. Zool.* i. *tab.* 54.

† DESCRIPTION. The head and back of the male are of a light gray, tinged with red. Over each eye there is a white line: beneath

first, about a fortnight before the males; and they continue to come till the middle of May. In some parts of England they are found in vast plenty, and are much esteemed. About Eastbourn, in Sussex, they are caught by means of snares made of horse-hair, placed beneath a long turf. Being very timid birds, the motion even of a cloud, or the appearance of a hawk, will immediately drive them into the traps. These traps are first set every year on St. James's day, the twenty-fifth of July; soon after which they are caught in astonishing numbers, considering that they are not gregarious, and that more than two or three are scarcely ever seen flying together. The number annually ensnared in the district of Eastbourn alone, is said to amount to nearly two thousand dozen. The birds caught are chiefly young ones, and they are invariably found in the greatest number when an easterly wind prevails: they always come against the wind. A gentleman informed Mr. Markwick, that his father's shepherd once caught eighty-four dozen of them in a day. Great quantities of them are eaten on the spot by the inhabitants; others are picked, and sent to the London poulterers; and many are potted, being as much esteemed in England, as the ortolans are on the continent.

The vast plenty of these birds on the downs about Eastbourn, is supposed by Mr. Pennant to be occasioned by

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that is a broad black stroke, which passes across each eye to the hinder part of the head. The rump and lower half of the tail are white: the upper half black. The underside of the body is white, tinged with yellow: on the neck it inclines to red. The quill-feathers are black, edged with reddish brown. The colours of the female are more dull: this sex wants the black mark across the eyes; and the bar of white on the tail is narrower. *Pennant.*

SYNONYMS. Motacilla Oenanthe. *Linn.*—Cul-blanc, ou Vitrec, ou Motteux. *Buff.*—Wheat-ear, Fallow-smich, White-tail. *Willughby.*—White-rump. *Bewick.*—*Bew. Birds, p.* 229.

a species of fly, their favourite food, that feeds on the wild thyme, and abounds on the adjacent hills.

A few of the birds breed in the old rabbit-burrows there. The nest is large, and made of dried grass, rabbets' down, a few feathers, and horse-hair. The eggs are from six to eight in number, and of a light colour.

THE RED-BREAST *.

The Red-breast has usually been reckoned amongst the birds of passage; but, as the Comte de Buffon has elegantly expressed himself, the departure in the autumn "not being proclaimed among the Red-breasts, as among other birds at that season, collected into flocks,—many stay behind; and these are either the young and inexperienced, or some which can derive support from the slender resources of the winter. In that season they visit our dwellings, and seek the warmest and most sheltered situations; and, if any one happens still to continue in the woods, it becomes the companion of the faggot-maker, cherishes itself at his fire, pecks at his bread, and flutters the whole day round him, chirping its slender *pip*. But, when the cold grows more severe, and thick snow covers the ground, it approaches our houses, and taps at the window with its bill, as if to entreat an asylum, which is cheerfully granted; and it repays the favour by the most amiable familiarity, gathering the crumbs from the table, distinguishing affectionately the people of the house, and assuming a warble, not indeed so rich as that in the spring, but more delicate. This it retains through all the rigours of the season; to hail each day the kindness of its host, and the sweetness

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* Synonyms. Motacilla Rubecula. *Linn.*—Le Rouge-Gorge. *Buff.*—Robin Red-breast, or Ruddock. *Willughby.*—*Bew. Birds, p.* 204.

of its retreat. There it remains tranquil, till the returning spring awakens new desires, and invites to other pleasures: it now becomes uneasy, and impatient to recover its liberty."

Thomson has charmingly described the annual visits of this little favourite, in lines that have been often quoted:

> The Red-breast, sacred to the household Gods,
> Wisely regardful of th' embroiling sky,
> In joyless fields, and thorny thickets, leaves
> His shivering mate, and pays to trusted Man
> His annual visit. Half-afraid he first
> Against the window beats; then brisk alights
> On the warm hearth; then, hopping o'er the floor,
> Eyes all the smiling family askance,
> And pecks, and starts, and wonders where he is;
> Till, more familiar grown, the table-crumbs
> Attract his slender feet.

The Red-breast generally builds its nest by the roots of trees, in some concealed spot near the ground. This is composed of dried leaves, mixed with hair and moss, and lined with feathers. The female lays from five to seven eggs. In order the more successfully to conceal its nest, we are told that it covers it with leaves, suffering only a narrow winding entrance under the heap to be left.

This bird feeds principally on insects and worms; and its delicacy in preparing the latter is somewhat remarkable. It takes a worm by one extremity, in its beak, and beats it on the ground till the inner part comes away. Then, taking it in the same manner by the other end, it entirely cleanses the outer part, which alone it eats.

Its general familiarity has given it a peculiar denomination in several countries. The inhabitants of Bornholm call it *Tommi Liden*, the Norwegians, *Peter Ronsmad:* the Germans, *Thomas Gierdet;* and we give it the familiar name of *Robin Red-breast*.

THE WREN*.

The Wren is found throughout Europe. Its nest is curiously constructed, being composed chiefly of moss, and lined with feathers; and in shape almost oval, with only one small entrance. This is generally found in some corner of an out-house, stack of wood, or hole in a wall, near our habitations; but when the Wren builds in the woods, it is often in a bush near the ground, on the stump of a tree, or even on the ground. The female lays from ten to eighteen eggs. It is very remarkable, that the materials of the nest are generally adapted to the place where it is formed. If against a hay-rick, its exterior is composed of hay: if against the side of a tree clad with white lichens, it is covered with the same substance; and if built against a tree covered with green moss, or in a bank, its exterior always bears the same correspondence. The lining is invariably of feathers. The Wren does not, as is usual with most other birds, begin the bottom of its nest first. When against a tree, its primary operation is to trace the outline, which is of an oval shape, upon the bark, and thus fasten it with equal strength to all parts. It then, in succession, closes the sides and top, leaving only a small hole for entrance. If the nest is placed under a bank, the top is first begun, and well secured in some small cavity; and by this the fabric is suspended.

The song of the Wren is much admired; being, though short, a pleasing warble, and louder than could be expected from the size of the bird. This it continues throughout the year; and it has been heard to sing unconcerned even during a fall of snow. It sings also

* SYNONYMS. Motacilla Troglodytus. *Linn.*—Troglodyte. *Buff.* —Kitty Wren. *Bewick.—Bew. Birds, p. 227.*

very late in the evening; though not, like the Nightingale, after dark.

THE GOLDEN-CRESTED WREN *.

The song of this beautiful little bird, the smallest of all the British feathered race, is extremely delicate and pleasing. It is not much unlike, but is not quite so loud as, that of the Common Wren. The Golden-crested Wren may be easily known in winter by its shrill squeak, somewhat resembling the crinking of a grasshopper. Except in the frosts, it continues its song during the whole year. These birds are very agile, and almost continually in motion, fluttering from branch to branch, creeping on all sides of the trees, clinging to them in every situation, and oftentimes hanging with their backs downward, in the manner of the titmice.

Their food consists chiefly of the smallest insects, which they find in the crevices of the bark of trees, or catch nimbly on the wing. They also eat the eggs of insects, small worms, and various kinds of seeds. They delight to frequent the largest trees, such as oaks, elms, and firs.

The nest of the Golden-crested Wren is an interesting fabric. It somewhat resembles that of the chaffinch. One side of it is frequently interwoven with the leaves of the tip end of the branch of a fir-tree, by which means it swings

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* Description. The head and upper part of the body of this Wren, are of a deep reddish brown: above each eye there is a stroke of white: the back, and the coverts of the wings and tail, are marked with slender transverse black lines; the quill-feathers with bars of black and red. The throat is of a yellowish white. The belly and sides are crossed with narrow dusky and pale reddish brown lines. The tail is crossed with dusky bars. *Pennant.*

Synonyms. Motacilla regulus. *Linn.*—Le Roitelet. *Buff.*

about, in high winds, like a pendulum. Its form is oval, very deep, with a small hole near the middle, for the ingress and egress of the bird. The materials composing its exterior are different species of moss; and within, it is lined with wool, hair, and feathers. The female lays from ten to eighteen eggs, and not unusually brings up as many young ones. It may, observes Mr. Ray, be ranked among those daily miracles of which we take no notice, that this bird should feed such a number without passing over one, and that too in utter darkness. The eggs are, in size, scarcely larger than peas, and are of a white colour, sprinkled with small dull spots.

These birds are found in various parts, not of Europe only, but also of Asia and America. They are said to bear well every change of temperature, from the greatest degree of heat to that of the severest cold. They continue with us during the whole year: but Mr. Pennant states that they cross annually from the Orknies to the Shetland Islands, where they breed, and from whence they return before the winter. This, as he remarks, is a long flight (sixty miles) for so small a bird.

THE WILLOW WREN*.

The Willow Wren is not uncommon in many parts of England. It is migratory, visiting us usually about the

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* DESCRIPTION. This bird is little bigger than the common Wren. The upper parts of the body are of a pale olive-green; the under pale yellow, and a streak of yellow passes over the eyes. The wings and tail are brown, edged with yellowish green; and the legs are yellowish.

SYNONYMS. Motacilla Trochilus. *Linn.*—Bouillot, ou Chantre. *Buff.*—Small Yellow Bird. *Ray.*—Green Wren. *Albin.*—Yellow Wren. *Penn.*

middle of April, and taking its departure towards the end of September. The female constructs her nest in holes at the roots of trees, in hollows of dry banks, and other similar places. This is round, and not unlike that of the wren. The eggs are dusky white, marked with reddish spots; and are five in number.

A Willow-wren had built in a bank of one of the fields of Mr. White, near Selborne. This bird a friend and himself observed, as she sat in her nest; but they were particularly careful not to disturb her, though she eyed them with some degree of jealousy. Some days after, as they passed the same way, they were desirous of remarking how the brood went on; but no nest could be found, till Mr. White happened to take up a large bundle of long green moss, thrown as it were carelessly over the nest, in order to mislead the eye of any impertinent obtruder.

The Willow-wren may be justly termed the Nightingale of the northern snowy countries of Europe. It settles on the most lofty branches of the birch-trees, and makes the air resound with its bold and melodious song.

THE TAYLOR BIRD*.

The nest of the Taylor Bird is a very remarkable production. Its exterior is constructed of two leaves; the one generally dead, which the bird fixes, at the end of some branch, to the side of a living one, by sewing both together with little filaments, (its bill serving as a needle,) in the

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* DESCRIPTION. This, like the last two, is a very small species, measuring scarcely more than three inches in length. Its colour is entirely yellow.

It is a native of India.

SYNONYMS. Motacilla Sutoria. *Linn.*—Taylor Bird. *Latham.*

manner of a pouch or purse, and open at the top. Sometimes, instead of a dead leaf and a living one, two living leaves are sewed together; and, thus connected, they seem rather the work of human art than of an uninstructed animal. After the operation of sewing is finished, the cavity is lined with feathers and soft vegetable down. The nest and birds are together so very light, that the leaves of the most exterior and slender twigs of the trees are chosen for the purpose; and, thus situated, the brood is completely secured from the depredations of every invader.

*OF THE TITMICE IN GENERAL**.

This is a diminutive but sprightly race of birds; possessed both of much courage and much strength. Their general food consists of seeds, fruit, and insects; and a few will eat flesh. Some of them will venture to assault birds that are twice or thrice their own bulk; and, in this case, they direct their aim chiefly at the eyes. They often seize upon birds that are weaker than themselves; which they kill, and, having picked a hole in the skull, eat out the brains. They are very prolific, laying eighteen or twenty eggs at a time. Their voice is, in general, unpleasant.

THE PENDULINE TITMOUSE †.

In the construction of their nests, these birds employ chiefly the light down found on the buds of the willow, the

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* The bill is straight, strong, hard, sharp-pointed, and a little compressed. The nostrils are round, and covered with bristles. The tongue appears cut off at the extremity, and is terminated by three or four bristles. The toes are divided to their origin; and the back toe is very large and strong.

† Description. These birds are about four inches and a half in length. The fore part of the head is whitish, and the hind part and

poplar, and the aspen; on thistles, dandelions, and other flowers. With their bill they entwine these filamentous substances, and form a thick, close web, almost like cloth: this they fortify externally with fibres and small roots, which penetrate into the texture, and in some measure compose the basis of the nest. They line the inside with the same down, but not woven, in order that their offspring may lie soft. They shut it above, for the purpose of confining the warmth; and they suspend it with hemp, nettles, &c. from the cleft of a small pliant branch, (over some stream,) that it may rock more gently, assisted by the spring of the branch. In this situation the brood are well supplied with insects, which constitute their chief food; and are also thus protected from their enemies. The nest sometimes resembles a bag, and sometimes a short purse. The aperture is made in the side, and is almost always turned towards the water: it is nearly round, and only an inch and a half in diameter, or even less, and is commonly surrounded by a brim more or less protuberant; this, however, is sometimes wanting.

These nests are seen sometimes in great abundance in the fens of Bologna, and in those of Tuscany, Lithuania, Poland, and Germany. The peasants regard them with superstitious veneration; one of them is usually suspended near the door of each cottage; and the possessors esteem it a defence against thunder, and its little architect as a sacred bird.—The Penduline Titmice frequent watery

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the neck are ash-coloured. The upper parts of the plumage are gray; the forehead is black; the throat and the front of the neck are of a very pale ash-colour; and the rest of the under parts are yellowish. The quills and tail are brown, edged with white; and the legs are reddish gray.

SYNONYMS. Parus Pendulinus. *Linn.*—Mésange de Pologne, ou Remiz. *Buff.*—Mountain Titmouse. *Albin.*—Penduline Titmouse. *Latham.*

places, for the sake of aquatic insects, on which they feed.

THE CAPE TITMOUSE *.

The Cape Titmouse constructs its nest of the down of a species of Asclepias. This luxurious nest is made of the texture of flannel, and equals the fleecy-hosiery in softness. Near the upper end projects a small tube, about an inch in length, with an orifice about three-fourths of an inch in diameter. Immediately under the tube is a small hole in the side, that has no communication with the interior of the nest: in this hole, the male sits at night, and thus both male and female are screened from the weather.

THE BLUE TITMOUSE †.

This busy little bird, says the editor of Mr. Bewick's very elegant and interesting work, is seen frequently in our gardens and orchards, where its operations are much dreaded by the over anxious gardener, who fears, lest, in its pursuit after its favourite food, which is often lodged in the tender buds, it may destroy them also, to the injury of his future harvest: not considering that it is the means of

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* Synonyms. Parus Capensis. *Linn.*—Petit Deuil. *Buff.*—Cape Titmouse. *Latham.*

† Description. The bill is short and dusky. The crown of the head is of a fine blue colour. From the bill to the eyes there is a black line. The forehead and cheeks are white. The back is of a yellowish green; and the lower side of the body yellow. The wings and tail are blue, the former marked transversely with a white bar. The legs are lead coloured.

Synonyms. Parus cœruleus. *Linn.*—Le Mesange bleue. *Buff.*—Tom-tit, Blue-cap, and Nun, in various parts of England.

destroying a much more dangerous enemy (the caterpillar), which it finds there. It has likewise a strong propensity to flesh, and is said to pick the bones of such small birds as it can master, as clean as skeletons. This bird is distinguished above all the rest of the Titmice by its rancour against the owl. The female builds her nest in the holes of walls or trees, which it lines well with feathers; she lays from fourteen to twenty white eggs. If her eggs should be touched by any person, or one of them be broken, she immediately forsakes her nest and builds again, but otherwise makes but one hatch in the year.

*OF THE SWALLOWS IN GENERAL**.

Swallows are easily distinguished from all other birds, not only from their general structure, but by their twittering voice, and their manner of life. They fly with great rapidity, seldom walk, and perform all their functions either on the wing or sitting. By means of their wide mouth they readily catch insects in the air, or on the surface of the water; and on these they entirely subsist.

Naturalists have been much divided in their opinions respecting the migration of the Swallow tribe from this country. This is a subject into which, if I were to enter at length, I should not only occupy too many pages of this work, but should also trespass too much both on the time and patience of the reader: I shall therefore be very brief in my account of it:—

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* The bill of the Swallow is short, broad at the base, small at the point, and somewhat bent. The nostrils are open. The tongue is short, broad, and cloven. The tail, except in one species, is forked; and the wings are long. The legs are short, and (except in four species, in which they are all placed forwards) the toes are plac three before and one behind.

MAHARAJA SERFOGI'S SARAS

The Hon. Daines Barrington, and several other writers, have supposed that *Swallows* do not leave this country; but that they lie concealed, and in a torpid state, during winter, under water: that the *martins* lie concealed during the same time in crevices of rocks, and other lurking-places above ground: that the *sand martins* remain in the holes in which they form their nests: and that the *swifts* continue all winter in their holes in churches and old buildings. That there have been many well-authenticated instances of the birds being found torpid in each of these situations, both here and in some other countries, cannot be denied. But a migration of the major part of these birds is not to be contradicted, by what seems to be rather the effect of chance than design. Those birds that have been late hatched, and have not acquired sufficient strength to accompany their companions in their journey, may alone have supplied the above-mentioned instances. Were the whole of these species to remain, we should undoubtedly, since their numbers are immense, be supplied with more numerous and more generally known instances than have hitherto been recorded. Mr. John Hunter, on dissecting several Swallows, observed in them nothing differing from other birds in the organs of respiration; and immediately concluded, perhaps without considering the very respectable names that appear as witnesses in instances to the contrary, that it is highly absurd to suppose that *any* of them could remain for a long time under water. That the actual migration of the Swallow tribe does, however, take place, has been fully proved from a variety of well-attested facts; most of which have been taken from the observations of navigators who were eye-witnesses of their flights, and whose ships have sometimes afforded to them resting-places in their toilsome journies.

A single instance is recorded of some Swallows having, with warmth and care, been preserved alive through the

winter; by a Mr. Pearson, of London, who, on the 14th of February, 1786, exhibited them to the Society for Promoting Natural History. They died from neglect in the following summer.

THE CHIMNEY SWALLOW *.

During the summer months this Swallow takes up its residence in England, building its nest generally in the insides of our chimnies, a few feet from the top. This nest is composed of mud mixed with straw and hair, and lined with feathers. It lays four or five eggs, and has two broods in the year.

The progressive method by which the young ones are introduced to their proper habits, is very curious. They first, but not without some difficulty, emerge from the shaft: for a day or two they are fed on the chimney-top; and then are conducted to the dead leafless bough of some neighbouring tree, where, sitting in a row, they are attended by the parents with great assiduity. In a day or two after this, they are strong enough to fly, but continue still unable to take their own food. They therefore play about near the place, where the dams are watching for flies; and, when a mouthful is collected, at a certain signal, the dam and the nestling advance, rising towards each other, and meeting at an angle; the young ones all the while uttering such a short quick note of gratitude and complacency, that a person must have paid very little regard to the wonders of nature, who has not remarked this scene.

As soon as the dam has disengaged herself from the

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* Synonyms. Hirundo rustica. *Linn*—Hirondelle de Cheminée, ou Hirondelle Domestique. *Buff.*—House or Chimney Swallow. *Penn.*—*Bew. Birds, p.* 252.—*Penn. Brit. Zool.* i. *tab.* 56.

first brood, she immediately commences her preparations for a second, which is introduced into the world about the middle or latter end of August.

During every part of the summer, the Swallow is a most instructive pattern of unwearied industry and affection: from morning to night, while there is a family to be supported, she spends the whole time in skimming along, and exerting the most sudden turns and quick evolutions: avenues, and long walks under hedges, pasture-fields, and mown meadows where cattle graze, are their delight, especially if there are trees interspersed, because in such spots insects most abound. When a fly is taken, a smart snap from their bill is to be heard, not unlike the noise of the shutting of a watch-case; but the motion of the mandibles is too quick for the eye.

The Swallow is the excubitor to the house-martins and other little birds, announcing the approach of birds of prey: for as soon as a hawk or an owl appears, the Swallow calls, with a shrill alarming note, all his own fellows and the martins about him; who pursue in a body, and strike their enemy till they have driven him from the place, darting down upon his back, and rising in a perpendicular line in perfect security. This bird will also sound the alarm, and strike at cats when they climb on the roofs of houses, or otherwise approach the nests.

Wonderful is the address, Mr. White justly observes, which this adroit bird exhibits in ascending and descending with security through the narrow passage of a chimney. When hovering over the mouth of the funnel, the vibrations of its wings acting on the confined air occasion a rumbling like distant thunder. It is not improbable that the dam submits to the inconvenience of having her nest low down in the shaft, in order to have her brood secure from the rapacious birds; and particularly from owls,

which are frequently found to fall down chimnies, probably in their attempts to get at the nestlings.

Swallows are generally supposed to retire in the winter to Senegal, and some other parts of Africa. Dr. Russel says, that they visit the country about Aleppo towards the end of February; where, like those in Europe, they breed. Having hatched their young ones, they disappear about the end of July; and, returning in the beginning of October, continue somewhat more than a fortnight, and then disappear till the spring. They are found in almost all parts of the Old Continent, and are by no means uncommon in North America.

Professor Kalm, in his Travels into America, says, that a very reputable lady and her children related to him the following story respecting these birds, assuring him at the same time that they were all eye-witnesses to the fact:—"A couple of Swallows built their nest in the stable belonging to the lady; and the female laid eggs in the nest, and was about to brood them. Some days afterwards the people saw the female still sitting on the eggs; but the male, flying about the nest, and sometimes settling on a nail, was heard to utter a very plaintive note, which betrayed his uneasiness. On a nearer examination, the female was found dead in the nest; and the people flung her body away. The male then went to sit upon the eggs; but after being about two hours on them, and perhaps finding the business too troublesome, he went out, and returned in the afternoon with another female, which sat upon the nest, and afterwards fed the young ones till they were able to provide for themselves."

At Camerton Hall, near Bath, a pair of Swallows built their nest on the upper part of the frame of an old picture, over the chimney-piece; entering through a broken pane in the window of the room. They came three years successively; and in all probability would have continued to

do so, had not the room been put in repair, which prevented their access to it.

Another pair was known to build for two years together on the handles of a pair of garden shears, that were stuck up against the boards in an out-house; and therefore must have had their nest spoiled whenever the implement was wanted. And what is still more strange, a bird of the same species built its nest on the wings and body of an owl, that happened to hang dead and dry from the rafter of a barn, and so loose as to be moved by every gust of wind. This owl, with the nest on its wings, and with eggs in the nest, was taken as a curiosity to the museum of Sir Ashton Lever. That gentleman, struck with the oddity of the sight, furnished the person who brought it with a large shell, desiring him to fix it just where the owl had hung. The man did so; and in the following year a pair of Swallows, probably the same, built their nest in the shell, and laid eggs.

"By the myriads of insects," says a writer in the Gentleman's Magazine, "which every single brood of Swallows destroy, in the course of a summer, these birds defend us in a great measure from the personal and domestic annoyance of flies and gnats; and what is of infinitely more consequence, they keep down the numbers of our minute enemies, which, either in the grub or winged state, would otherwise prey on the labours of the husbandman. Since, then, Swallows are guardians of our corn, they should every where be protected by the same popular veneration which in Egypt defends the ibis, and the stork in Holland. We more frequently hear of unproductive harvests on the Continent than in this country; and it is well known that Swallows are caught and sold as food, in the markets of Spain, France, and Italy. When this practice has been very general and successful, I have little doubt that it has at times contributed to the scarcity of

corn. In England, we are not driven to such resources to furnish our tables. But what apology can be made for those, and many there are, whose education and rank should have taught them more innocent amusements, but who wantonly murder Swallows, under the idle pretence of improving their skill in shooting game? Besides the cruelty of starving whole nests by killing the dam, they who follow this barbarous diversion would do well to reflect, that by every Swallow they kill, they assist the effects of blasts, mildews, and vermin, in causing a scarcity of bread. Every lord of a manor should restrain his game-keeper from this execrable practice; nor should he permit any person to sport on his lands who does not refrain from it. For my part, I am not ashamed to own, that I have tempted martins to build round my house, by fixing scallop shells in places convenient for their 'pendent beds and procreant cradles;' and have been much pleased in observing with what caution the little architect raises a buttress under each shell, before he ventures to form his nest on it."

All the tribe have been observed to drink as they fly along, sipping the surface of the water; but the Swallow alone, in general, washes on the wing, by dropping into a pond many times successively. In very hot weather, house-martins and bank-martins also sometimes dip and wash.

This species feeds on small beetles, as well as on gnats and flies; and often settles on dug ground or paths, for gravel, which assists in grinding and digesting its food. Horsemen, on wide downs, are often closely attended by a small party of Swallows, for miles together; which play before and behind them, sweeping around, and collecting all the insects that are roused by the trampling of the horse's feet. When the wind blows hard, the birds, without this expedient, are often forced to alight, in order to pick up their lurking prey.

Mr. White informs us, that for some weeks before the Swallows depart, they (without exception) forsake houses and chimnies, and roost in trees; and they usually withdraw about the beginning of October, though some few stragglers may be seen at times till the first week in November. A few days previously to their departure, they assemble in vast flocks on house-tops, churches, and trees, from whence they take their flight.

I shall conclude the account of this bird with an anecdote from M. de Buffon. This celebrated writer informs us, that a shoemaker in Basle put a collar on a Swallow, containing an inscription to this purport:

"Pretty Swallow, tell me, whither goest thou in winter?"

and in the ensuing spring received, by the same courier, the following answer:

"To Antony at Athens:—Why dost thou inquire?"

The most probable conjecture on this story is, that the answer was written by some one who had caught the bird in Switzerland; for both Belon and Aristotle assure us, that though the Swallows live half the year in Greece, yet they always pass the winter in Africa.

THE MARTIN*.

About the 16th of April these birds begin to appear, and generally for some time they pay no attention to the

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* Synonyms. Hirundo urbica. *Linn.*—Hirondelle à Croupion blanc, ou de Fenêtre. *Buff.*—Martin, Martlet, Martinet. *Willughby.*—Window Swallow. *Bewick.*—House Martin. *Montagu.*—*Bew. Birds, p.* 255.

busines of nidification, but play and sport about either to recruit from the fatigue of their journey, or else that their blood may recover its true tone and texture, after having been so long benumbed by the severities of winter. Towards the middle of May, if the weather be fine, the Martin begins to think of providing a mansion for its family. The crust or shell of its nest seems to be formed of such dirt or loam as is most readily met with; and it is tempered and wrought together with little pieces of broken straws, to render it tough and tenacious.

As this bird often builds against a perpendicular wall, without any projecting ledge under, its utmost efforts are necessary to get the first foundation firmly fixed, so as to carry safely the superstructure. On this occasion the bird not only clings with its claws, but partly supports itself by strongly inclining its tail against the wall, making that a fulcrum; and, thus fixed, it plasters the materials into the face of the brick or stone. But that this work may not, while soft, incline down by its own weight, the provident architect has the prudence and forbearance not to proceed too fast; but, by building only in the morning, and dedicating the rest of the day to food and amusement, gives it sufficient time to dry and harden. About half an inch seems to be a sufficient layer for a day. Thus careful workmen, when they build mud-walls, (informed at first, perhaps, by this little bird,) add but a moderate layer at a time, and then desist, lest the work should become top-heavy, and so be ruined by its own weight. By this method, in about ten or twelve days a hemispherical nest is formed, with a small aperture towards the top; strong, compact, and warm, and perfectly fitted for all the purposes for which it was intended. But nothing is more common than for the House-sparrow, as soon as the shell is finished, to seize on it, eject the owner, and to line it according to its own peculiar manner.—After so much

labour is bestowed in erecting a mansion, as Nature seldom works in vain, Martins will breed for several years successively in the same nest, where it happens to be well sheltered and secured from the injuries of the weather. The shell or crust of the nest is a sort of rustic work, full of knobs and protuberances on the outside: nor is the inside smoothed with any great exactness; but is rendered soft and warm, and fit for incubation, by a lining of small straws, grasses, and feathers, and sometimes by a bed of moss interwoven with wool.

In this nest are produced four or five young ones; which, when arrived at full growth, become impatient of confinement, and sit all day with their heads out at the orifice, where the dams, by clinging to the nest, supply them with food from morning to night. After this they are fed by the parents on the wing; but this feat is performed by so quick and almost imperceptible a flight, that a person must attend very exactly to the motions of the birds, before he is able to perceive it.

As soon as the young ones are able to provide for themselves, the dams repair their nests for a second brood. The first flight then associate in vast flocks; and may be seen on sunny mornings and evenings, clustering and hovering around towers and steeples, and on the roofs of churches and houses. These congregatings usually begin to take place about the first week in August. From observing the birds approaching and playing about the eaves of buildings, many persons have been led to suppose that more than two old birds attend on each nest.

The Martins are often very capricious in fixing on a nesting-place, beginning many edifices, and leaving them unfinished; but (as we have before observed) when a nest has once been completed in a sheltered situation, it is made to serve for several seasons. In forming their nests these industrious artificers are at their labour, in the long days,

before four o'clock in the morning: in fixing their materials, they plaster them on with their chins, moving the head with a quick vibratory motion.

Sometimes in very hot weather they dip and wash as they fly, but not so frequently as the swallows. They are the least agile of all the British hirundines; their wings and tails are short, and therefore they are not capable of those surprising turns, and quick and glancing evolutions, that are so observable in the chimney swallows.

Their motion is placid and easy: generally in the middle region of the air; for they seldom mount to any great height, and never sweep long together over the surface of the ground or water. They do not wander far in quest of food; but are fond of sheltered places near some lake, or under some hanging wood, especially in windy weather.

They breed the latest of all our swallows, never being without unfledged young ones even so late as Michaelmas.

As the summer declines, the flocks increase in number every day from the accession of the second broods; till at length, round the villages on the Thames, they swarm in myriads, darkening even the face of the sky, as they frequent the aits of that river, where they roost. The bulk of them retire in vast companies, about the beginning of October; but some have been known to remain so late as till the sixth of November. It would seem that either these are very short-lived birds, or that they undergo vast destruction in their absence, or do not return to the districts where they were bred; for the numbers that appear in the spring, bear no proportion to those that retired in the preceding year.

During the residence of a Mr. Simpson at Welton in North America, he one morning heard a noise from a couple of Martins that were flying from tree to tree near his dwelling. They made several attempts to get into a box or cage fixed against the house, which they had be-

fore occupied; but they always appeared to fly from it again with the utmost dread, at the same time repeating those loud cries which first drew his attention. Curiosity led this gentleman to watch their motions. After some time, a small wren * came from the box, and perched on a tree near it: when her shrill notes seemed to amaze her antagonists. Having remained a short time, she flew away. The Martins took this opportunity of returning to the cage; but their stay was short. Their diminutive adversary returned, and made them retire with the greatest precipitation. They continued manœuvring in this way the whole day, but the following morning, on the wren's quitting the cage, the Martins immediately returned, took possession of their mansion, broke up their own nest, went to work afresh with extreme industry and ingenuity, and soon barricaded their doors. The wren returned, but could not now re-enter. She made attempts to storm the nest, but did not succeed. The Martins, abstaining from food nearly two days, persevered during the whole of that time in defending the entrance; and the wren, finding she could not force the works, raised the siege, quitted her intentions, and left the Martins in quiet possession of their dwelling.

THE SAND-MARTIN †.

In the banks of rivers, and in the perpendicular sides of sand-pits, these birds dig themselves round and regular holes, about two feet in depth, which run horizontally, and in a somewhat serpentine direction. At the further end of these burrows the birds construct their rude nest of grass

* Probably *Certhia familiaris* of Linnæus.

† Synonyms. Hirundo riparia. *Linn.*—Hirondelle de Rivage. *Buff.*—Sand Martin, or Shore Bird. *Willughby.*—Bank Martin, or Sand Swallow. *Bewick.*—*Bew. Birds, p.* 258.

and feathers. "Though one would at first be disinclined to believe (says Mr. White) that this weak bird, with her soft tender bill and claws, should ever be able to bore the stubborn sand-bank without entirely disabling herself; yet with these feeble instruments have I seen a pair of them make great dispatch; and could remark how much they had scooped in a day, by the fresh sand which ran down the bank, and which was of a different colour from what lay loose and had been bleached in the sun. In what space of time these little artists are able to mine and finish these cavities, I have never been able to discover; but it would be a matter worthy of observation, where it falls in the way of any naturalist to make such remarks. This I have often taken notice of, that several holes of different depths are left unfinished at the end of the summer. To imagine that these beginnings were intentionally made, in order to be in the greater forwardness for the ensuing spring, is allowing perhaps too much foresight to a simple bird. May not the cause of these being left unfinished, arise from the birds meeting in those places with strata too harsh, hard, and solid, for their purpose; which they relinquish, and go to a fresh spot that works more freely? Or may they not in other places fall in with a soil as much too loose and mouldering, liable to flounder, and threatening to overwhelm them and their labours? One thing is remarkable—that, after some years, the old holes are forsaken, and new ones bored; perhaps because the former habitations were become foul and fetid from long use, or because they so abounded with fleas as to become untenable." This species is so strangely annoyed with fleas, that these vermin have been sometimes seen swarming at the mouths of their holes, like bees on the stools of their hives.

The Sand-martin appears in this country about the same time as the swallow, and lays from four to six white

and semi-transparent eggs.—These birds seem not to be of very sociable disposition, never (with us) congregating in the autumn. They have a peculiar manner of flying; flitting about with odd jerks and vacillations, not unlike the motions of a butterfly.

THE ESCULENT SWALLOW *.

The nest of this bird is exceedingly curious; and is composed of such materials, that it is not only edible, but is accounted by the epicures of Asia, among the greatest dainties. It generally weighs about half an ounce; and is in shape like a half-lemon, or, as some say, like a saucer with one side flatted, which adheres to the rock. The texture somewhat resembles isinglass, or fine gum-dragon: and the several layers of the component matter are very apparent; it being fabricated from repeated parcels of a soft slimy substance, in the same manner as the martins form their nests of mud. Authors differ much as to the materials of which this nest is composed: some suppose it to consist of sea-worms of the *Mollusca* class; others, of the sea-qualm, (a kind of cuttle fish,) or a glutinous sea-plant, called *Agal-agal*. It has also been supposed that the swallows rob other birds of their eggs, and, after breaking the shells, apply the white of them in the composition of these structures.

The best sort of nests, which are perfectly free from dirt, are dissolved in broth, in order to thicken it; and

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* Description. The Esculent Swallow is somewhat smaller than the wren. The bill is thick. The upper parts of the body are brown, and the under parts whitish. The tail is forked; and each feather is tipped with white. The legs are brown.

Synonyms. Hirundo esculenta. *Linn.*—Salangane. *Buff.*—Esculent Swallow. *Latham.*

are said to give it an exquisite flavour.—Or they are soaked in water, to soften them; then pulled to pieces; and, after being mixed with *ginseng*, are put into the body of a fowl. The whole is then stewed in a pot, with a sufficient quantity of water, and left on the coals all night. On the following morning it is ready to be eaten.

These nests are found in vast numbers in certain caverns of various islands in the Soolo Archipelago. The best kind sell in China at from one thousand to fifteen hundred dollars the *picle**; the black and dirty ones for only twenty dollars. It is said that the Dutch alone export from Batavia one thousand *picles* of these nests every year; which are brought from the islands of Cochin-China, and those lying east of them. It is much to be wondered, that, among other luxuries imported by us from the East, these nests should not have found their way to our tables; but as yet they are so scarce in England, that they are kept as rarities in the cabinets of collectors.

The following is the account given of the nests of the Esculent Swallow by Sir George Staunton: "In the Cass (a small island near Sumatra) were found two caverns, running horizontally into the side of the rock; and in these were a number of those birds'-nests so much prized by the Chinese epicures. They seem to be composed of fine filaments, cemented together by a transparent viscous matter, not unlike what is left by the foam of the sea upon stones alternately covered by the tide, or those gelatinous animal substances found floating on every coast. The nests adhere to each other, and to the sides of the cavern; mostly in rows, without any break or interruption. The birds that build these nests are small gray Swallows, with bellies of a dirty white. They were flying about in considerable numbers; but were so small, and their flight was

* About twenty-five pounds.

so quick, that they escaped the shot fired at them. The same sort of nests are said to be also found in deep caverns at the foot of the highest mountains in the middle of Java, at a distance from the sea: from which source it is thought that the birds derive no materials, either for their food, or the construction of their nests; as it does not appear probable they should fly, in search of either, over the intermediate mountains, which are very high, or against the boisterous winds prevailing thereabout. They feed on insects, which they find hovering over stagnated pools between the mountains, and for the catching of which their wide-opening beaks are particularly adapted. They prepare their nests from the best remnants of their food. Their greatest enemy is the kite; who often intercepts them in their passage to and from the caverns, which are generally surrounded with rocks of gray limestone, or white marble. The nests are placed in horizontal rows, at different depths, from fifty to five hundred feet. The colour and value of the nests depend on the quantity and quality of the insects caught; and, perhaps, also on the situation where they are built. Their value is chiefly ascertained by the uniform fineness and delicacy of their texture; those that are white and transparent being most esteemed, and fetching often in China their weight in silver.

"These nests are a considerable object of traffic among the Javanese; many of whom are employed in it from their infancy. The birds, after having spent nearly two months in preparing their nests, lay each two eggs, which are hatched in about fifteen days. When the young birds become fledged, it is thought the proper time to seize upon their nests; which is done regularly three times a-year, and is effected by means of ladders of bamboo and reeds, by which the people descend into the caverns: but when these are very deep, rope ladders are preferred. This

operation is attended with much danger; and several perish in the attempt. The inhabitants of the mountains, generally employed in this business, begin always by sacrificing a buffalo; which custom is observed by the Javanese on the eve of every extraordinary enterprize. They also pronounce some prayers, anoint themselves with sweet-scented oil, and smoke the entrance of the cavern with gum-benjamin. Near some of the caverns a tutelar goddess is worshipped; whose priest burns incense, and lays his protecting hands on every person preparing to descend. A flambeau is carefully prepared at the same time, with a gum which exudes from a tree growing in the vicinity, and which is not easily extinguished by fixed air or subterraneous vapours."

THE BLACK MARTIN, OR SWIFT *.

The legs of the Swift are so short, that the actions of walking and rising from the ground seem very difficult. Nature has, however, made the bird ample compensation, by furnishing it with abundant means in a peculiarly great extent of wing, for an easy and continual flight. It passes more of its time on the wing than any other swallow, and its flight is more rapid. It breeds under the eaves of houses, in steeples, and other lofty buildings; and makes its nest of grass and feathers.

The feet of this bird are of a particular structure, all the toes standing forward. The least toes consist of only one bone; the others of two each; in which they differ from the toes of all other birds. This is, however, a construction nicely adapted to the purposes in which the feet of these birds are employed.

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* SYNONYMS Hirundo Apus. *Linn.*—Martinet noir. *Buff.*—Black Martin, or Swift. *Willughby.*—Devili ng. *Bewick.*—*Bew. Birds*, *p.* 259.

The Swift visits us the latest, and leaves us the earliest, of any of the tribe: it does not often arrive before the beginning of May, and seldom remains later than the middle of August.

It is the most active of all birds; being on the wing, in the height of summer, at least sixteen hours in the day; withdrawing to rest, in the longest days, about a quarter before nine in the evening, some time after all the other day-birds are gone. Just before they retire, large groups of them assemble high in the air, screaming, and shooting about with wonderful rapidity. This bird is, however, never so alert as in sultry, louring weather; when it expresses great alacrity, and calls forth all its powers.

In hot mornings, the Swifts collect together in little parties, and dash round the steeples and churches, squeaking at the same time in a very clamorous manner. These are supposed to be the males serenading the sitting hens; as they seldom make this noise till they come close to the walls or eaves, and those within always utter in return a faint note of complacency. When the hen has been occupied all the day in sitting, she rushes forth, just before it is dark, to relieve her weary limbs. She snatches a scanty meal for a few minutes, and then returns to her task of incubation.

Swifts, when shot while they have young, are found to have a little cluster of insects in their mouths, which they pouch and hold under their tongue. In general, they fly and feed higher in the air than the other species. They also range to vast distances; for motion is but a slight labour to them, endowed as they are with such wonderful powers of wing. Sometimes in the summer they may, however, be observed hawking very low, for hours together, over pools and streams, in search of the Cadew-flies, May-flies, and Dragon-flies, which frequent the banks and surface of waters, and which afford them a plentiful and suc-

culent nourishment.—Sometimes they pursue and strike at birds of prey when they are sailing about in the air; but they do not express so much vehemence and fury on these occasions as the swallows.

Swifts differ from all the other British hirundines, in breeding but once in the summer, and in producing no more than two young ones at a time.

The main body of these birds retire from this country before the middle of August, generally by the tenth, (which is but a short time after the flight of their young,) and not a single straggler is to be seen on the twentieth. This early retreat is totally unaccountable, as that time is often the most delightful in the year. But, what is yet more extraordinary, they begin to retire still earlier in the most southerly parts of Andalusia; where they can by no means be influenced by any defect of heat, or even (as one would suppose) of food. This is one of those incidents in natural history, which not only baffle our researches, but elude also our conjectures.

In the month of February, 1766, a pair of Swifts were found adhering by their claws, and in a torpid state, under the roof of Longnor Chapel, in Shropshire: on being brought to the fire they revived, and moved about the room.

The voice of the Swift is a harsh scream; yet there are few ears to which it is not pleasing, from an agreeable association of ideas, since it is never heard but in the most lovely weather of summer. These birds never settle on the ground unless by accident, from the difficulty they have in walking, or rather (as it may be called) in crawling; but they have a strong grasp with their feet, by which they readily cling to walls and other places that they frequent. Their bodies being flat, they can enter a very narrow crevice; and where they cannot pass on their bellies, they will turn up edgewise to push themselves through.

*OF THE PIGEON TRIBE IN GENERAL**.

The Pigeons constitute a tribe that forms a connecting link between the passerine birds and the poultry.—They are much dispersed over the world, some of the species being found even in the arctic regions. Their principal food is grain: they drink much; and not at intervals like other birds, but by a continued draught, like the quadrupeds. During the breeding-time they associate in pairs, and pay court to each other with their bills. The female lays two eggs, and the young ones that are produced are, for the most part, a male and a female. They usually breed more than once in the year; and the parent birds divide the labour of incubation by sitting alternately on the eggs.

Both the male and female assist in feeding their offspring.—This, in most of the species with which we are acquainted, is done by means of a substance in appearance not unlike curd, and analogous to milk in quadrupeds, that is secreted in their crop. During incubation, the coats of the crop are gradually enlarged and thickened, like what happens to the udders of female quadrupeds during the time of uterine gestation. On comparing the state of the crop when the bird is not sitting, with its appearance on these occasions, the difference is found to be very remarkable. In the first case it is thin and membranous; but when the young ones are about to be hatched, it becomes thicker, and takes a glandular appearance, having its internal surface very irregular.—Whatever may be the consistence of this substance when just secreted, it probably very soon

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* These birds have a weak, slender bill, straight at the base; with a soft protuberance, in which the nostrils are situated. The legs are short, and in most of the species red; and the toes are divided to the origin.

coagulates into a granulated white curd; and in this form it is always found in the crop. If an old Pigeon be killed just when the young ones are hatching, the crop will be found as above described, having in its cavity pieces of white curd mixed with the common food of the bird, such as barley, peas, &c.—The young Pigeons are fed for a little while with this substance only: about the third day some of the common food is to be found along with it. As the Pigeon grows older, the proportion of common food is increased; so that by the time it is seven, eight, or nine days old, the secretion of the curd ceases in the old ones, and of course no more is found in the crop of the young.—It is a curious fact, that the parent pigeon has at first power to throw up this curd without any mixture of common food; although, afterwards, both are thrown up in the proportion required for the young ones*.

THE WILD-PIGEON, OR STOCK-DOVE†.

Multitudes of Wild-pigeons visit this country in the winter, from their more northerly summer retreats; appearing about November, and again retiring (except a few that breed with us) in the spring. While the beech woods were suffered to cover large tracts of ground, these birds used to

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* What is here termed curd, is not literally such, but is so called from its much resembling that substance in appearance. *Hunter on Anim. Econ. p. 235.*

† Description. This bird is of a bluish ash-colour; the breast dashed with a fine changeable green and purple; the sides of the neck with shining copper-colour. Its wings are marked with two black bars; one on the coverts of the wings, and the other on the quill-feathers. The back is white, and the tail barred near the end with black. The usual weight is about fourteen ounces. *Pennant.*

Synonyms Columba Oenas. *Linn.*—Pigeon sauvage. *Buff.*—Stock-dove. *Penn.*—Rockier. *Montagu.*—*Bew. Birds, p. 267.*

haunt them in myriads, frequently extending above a mile in length as they went out in a morning to feed. They are, however, still found, in considerable quantity in many parts of our island; forming their nests in holes of rocks, and old towers, and in the hollows of trees; but never, like the ring-dove, on the boughs.

In a state of domestication, these Pigeons are rendered of very material service. They frequently breed eight or nine times in the year; and though only two eggs are laid at a time, their increase is so rapid and prodigious, that, at the expiration of four years, the produce, and descendants, of a single pair may amount to the immense number of nearly fifteen thousand.

The usual way to entice Pigeons to remain at a required spot, is to place what is called a *salt-cat* near them. This is composed of loam, old rubbish, and salt, and will so effectually answer the purpose as to decoy even those belonging to other places; it is on this account held illegal.

We have a singular anecdote related of the effect of music on a Pigeon, by John Lockman, in some reflections concerning operas, prefixed to his musical drama of Rosalinda. This person being at the house of Mr. Lee, a gentleman who lived in Cheshire, and whose daughter was a fine performer on the harpsichord, he observed a Pigeon, which, whenever the young lady played the song of "Speri si," in Handel's opera of Admetus, (and this only,) would descend from an adjacent dove house to the room-window where she sat, and listen to it apparently with the most pleasing emotions; and when the song was finished, it always returned immediately to the dove house.

There are upwards of twenty varieties of the Domestic-pigeon; and of these the *Carriers* are the most justly cele-

brated. They obtained their name from the circumstance of their conveying letters and small packets from one place to another.

It is through attachment to their native place, and particularly to the spot where they have brought up their young, that they are thus rendered useful to mankind. The bird is conveyed from its home to the place whence the information is intended to be sent; the letter is tied under its wing, and it is let loose. From the instant of its liberation, its flight is directed through the clouds, at an amazing height, to its home. By an instinct altogether inconceivable, it darts onward in a straight line to the very spot from whence it was taken; but how it can direct its flight so exactly, will probably for ever remain unknown to us.

These birds are not now rendered of the same use as formerly, in carrying letters from governors in besieged cities to generals about to relieve them; from princes to their subjects, with tidings of some fortunate event; or from lovers to their mistresses, with the dictates of their passion; nor, since the executions at Tyburn have ceased, will they again be let loose the moment the fatal cart is drawn away, to notify to distant friends the departure of the unhappy criminal.

The rapidity of their flight is very wonderful. Lithgow assures us that one of them will carry a letter from Babylon to Aleppo (which, to a man, is usually a thirty days' journey) in forty-eight hours.—To measure their speed with some degree of exactness, a gentleman some years ago, on a trifling wager, sent a Carrier-pigeon from London, by the coach, to a friend at Bury St. Edmund's; and along with it a note, desiring that the Pigeon, two days after its arrival there, might be thrown up precisely when the town clock struck nine in the morning. This was accordingly done; and the Pigeon arrived in London, and flew into the Bull-

inn, in Bishopsgate-street, at half an hour past eleven o'clock of the same morning, having flown seventy-two miles in two hours and a half.

The Carrier-pigeon is easily distinguished from the other varieties, by a broad circle of naked white skin round the eyes, and by its dark blue or blackish colour.

THE RING DOVE *.

These Pigeons build on the branches of trees, generally preferring those of the pine. The nest is large and open, formed principally of dried sticks; and the eggs, which may be frequently seen through the bottom of the nest, are larger than those of the domestic-pigeon.

The food of this, as well as of the other species, is principally grain: but a neighbour of the Rev. Mr. White, of Selborne, shot a Ring-dove, as it was returning from feeding, and going to roost; and when his wife had picked and drawn it, she found its craw stuffed with the most nice and tender tops of turnips.

Hence we may see that granivorous birds, when their usual kinds of subsistence fail, can feed on the leaves of

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* Description. The Ring-dove is the largest pigeon which is found in our island, and may at once be distinguished from all others by the size. Its weight is about twenty ounces: its length eighteen inches, and its breadth about thirty. The head, back, and coverts of the wings are of a bluish ash-colour. The lower side of the neck and breast is of a purplish red, dashed with ash-colour. On the hind part of the neck there is a semi-circular line of white: above and beneath that the feathers are glossy, and of changeable colours when opposed to the light. The belly is of a dirty white. The greater quill-feathers are dusky; the rest ash-coloured. Underneath the bastard-wing there is a white stroke pointing downwards. *Pennant.*

Synonyms. Columba Palumbus. *Linn.*—Pigeon Ramier. *Buff.*—Queest, Cushat, or Ring Dove. *Willughby.*—Ring Pigeon. *Latham.*—Wood Pigeon. *Montagu.*—*Bew. Birds, p.* 270.

vegetables. There is indeed reason to suppose that they would not be long healthy without these substances; for turkies, though corn-fed, delight in a variety of plants, such as cabbage, lettuce, endive, &c.; and poultry pick much grass; while geese live for months together on commons, by grazing alone.

> Nought is useless made.
> ———————On the barren heath
> The Shepherd tends his flock; that daily crop
> Their verdant dinner from the mossy turf
> Sufficient; after them, the cackling Goose,
> Close-grazer, finds wherewith to ease her wants.

Attempts have frequently been made to domesticate these birds, by hatching their eggs in dove-houses under the common pigeon; but as soon as the young ones were able to fly, they always escaped to their proper haunts. Mr. Montagu was at considerable pains in endeavours of this nature; and though he so far tamed them within doors as to have them become exceedingly troublesome, yet he never could produce a breed, either by themselves or with the tame pigeon. Two bred up together with a male pigeon were so tame as to eat out of the hand; but as they showed no signs of breeding in the spring, they were, in the month of June, suffered to take their liberty, by the window of the room being left open in which they were confined. It was supposed that the pigeon might induce them to return to their usual place of abode, either for food or to roost; but from that moment they assumed their natural habits, and nothing more was seen of them, although the pigeon remained.—This gentleman bred up a curious assemblage of birds, which lived together in perfect amity: it consisted of a common pigeon, a Ring-dove, a white-owl, and a sparrow-hawk; and the Ring-dove was master of the whole.

About the beginning of winter, the Ring-doves assemble in great flocks, and leave off cooing. The multitude

thus collected during that season, is so disproportioned to those which continue here the whole year, as to render it certain that much the greatest part of them quit the country in the spring. It is most probable that these go into Sweden and the adjoining countries, to breed; and return thus far southwards in autumn, from being unable to sustain the rigours of that climate in the winter months. They again begin to coo in March; soon after which, those that are left among us commence their preparations for breeding.

THE CROWNED PIGEON *.

The wings of the Crowned Pigeons are armed with an horny excrescence, with which they are able to strike a severe blow. These birds are easily rendered tame; and in the East Indies they are kept in court-yards, as poultry. They have frequently been brought alive into Europe, where they are justly considered among the greatest ornaments of the menagerie: and one instance has occurred of a female laying eggs, but these were unproductive. In a wild state they breed in the highest trees.

These birds have all the habits of the common pigeons; billing, inflating their breast, and cooing: the noise of their cooing is, however, so loud as, at times, to resemble rather

* Description. This bird is about the size of a common turkey. Its head is adorned with a most superb circular crest of feathers, standing erect, and composed of loose, unconnected webs, of a fine pale bluish ash colour. The eyes are lodged in a shuttle-shaped band of black. The lesser coverts of the wings, and the upper part of the back, are of a dark reddish purple: the first greater coverts are white, edged with red; and all the rest of the plumage is of the same colour as the crest.

Synonyms. Columba Coronata. *Linn.*—Faisan Couronné des Indes. *Buff.*—Great Crowned Indian Pigeon. *Latham.*

a bellowing. It is said that M. Bougainville's sailors were greatly alarmed on hearing this for the first time, in the wild and unfrequented spots of some of the islands on which they landed: they supposed it to proceed from the savage cries of hostile and concealed natives. The Crowned Pigeons are found in New Guinea, Pulo, and a few of the adjacent islands.

THE PASSENGER PIGEON *.

Passenger Pigeons visit, in enormous flocks, the different parts of North America. In the southern provinces their numbers depend greatly on the mildness or severity of the season; for in very mild weather few or none of them are to be seen. Actuated by necessity, they change their situations in search of acorns, mast, and berries, which the warmer provinces yield in vast abundance. When they alight, the ground is quickly cleared of all esculent fruits; to the great injury of the hog, and other mast-eating animals. After having devoured every thing that has fallen on the surface, they form themselves into a great perpendicular column, and fly round the boughs of trees, from top to bottom, beating down the acorns with their wings; and they then, in succession, alight on the earth, and again begin to eat.

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* Description. This species is about the size of the common pigeon. Its bill is black. Round the eyes there is a crimson mark; and the head, throat, and upper parts of the body, are ash-coloured. The sides of the neck are of a glossy, variable purple. The fore part of the neck and breast are vinaceous; and the under parts are the same, but paler. The tail is tolerably long. The legs are red, and the claws black.

Synonyms. Columba migratoria. *Linn.*—Pigeon de Passage. *Buff.*—Pigeon of Passage. *Catesby.*—Passenger, or Migratory Pigeon. *Penn.*

"I think," says Mr. Blackburne, in a letter to Mr. Pennant, "that these are as remarkable birds as any in America. They are in vast numbers in all parts; and have been of great service, in particular times, to our garrisons, in supplying them with fresh meat, especially at the out-posts. A friend told me, that in the year in which Quebec was taken, the whole army was supplied with this subsistence, if they chose it. The way was this. Every man took his club, (for they were forbidden to use their firelocks,) and they *flew*, as it was termed, in such quantities, that each person could kill as many as he wanted. They in general begin to fly soon after day-break, and continue till nine or ten o'clock; and again about three in the afternoon, and continue till five or six; but what is very remarkable, their course is always westerly. The times of flying here are in the spring, about the latter end of February or the beginning of March, and they continue every day for eight or ten days; and again in the fall, when they appear at the latter end of July or the beginning of August. The inhabitants catch vast quantities of them in clap-nets, with stale pigeons. I have seen them brought to the market at New York by sackfuls. People in general are very fond of them, and I have heard many say that they think them as good as our common blue pigeon: but I cannot agree in this opinion; the flesh tastes most like our queest, or wild pigeon, but is better meat. Sir William Johnston told me, that at one shot, with a blunderbuss, he killed *above a hundred and twenty*.

"I must remark one singular fact: that notwithstanding the whole people of a town go out *a-pigeoning*, as they call it, they do not, on some days, kill a single hen bird; and on the very next day, not a single cock, (and yet both sexes always fly westerly:) and when this is the case, the people are always assured that there will be a great quantity of them that season."

These Pigeons were so numerous when La Hontan was in Canada, that the bishop, he says, had been compelled more than once to *exorcise* them formally, on account of the damage they committed. Many of the trees are said to have had more pigeons on them than leaves, in this migration; and, for eighteen or twenty days, it was supposed sufficient might have been killed to supply food for a thousand men.

Mr. Weld, who very lately travelled through the States of North America, informs us that a gentleman of the town of Niagara assured him, that once as he was embarking there on board a ship for Toranto, a flight of them was observed coming from that quarter; that as he sailed over the lake Ontario to Toranto, forty miles distant from Niagara, Pigeons were seen flying over-head, the whole way, in a contrary direction to that in which the vessel proceeded; and that on his arriving at the place of his destination, the birds were still observed coming down from the North, in as large bodies as had been noticed at any time during the whole voyage. Supposing, therefore, that the Pigeons moved no faster than the vessel, the flight, according to this gentleman's account, must have extended at least eighty miles.

During their migrations, these pigeons are very fat. It is a singular fact, that Mr. St. John found in the craw of one of them some undigested rice, when the nearest rice-fields were at least 560 miles from his habitation. He naturally concluded that either they must fly with the celerity of the wind, or else digestion must be in a great measure suspended during their flight.

The Indians often watch the roosting-places of these birds; and, knocking them on the head in the night, bring them away by thousands. They preserve the oil, or fat: which they use instead of butter. There was formerly scarcely any little Indian town in the interior parts of

Carolina, where a hundred gallons of this oil might not at any time be purchased.

By the colonists they are generally caught in a net extended on the ground; to which they are allured by tame pigeons of their own species, that are blinded, and fastened to a long string. The short flights and repeated calls of the shackled birds, never fail either to excite their curiosity, or bring some of them down to attempt their relief; when they are immediately enclosed. Every farmer has a tamed Pigeon in a cage at his door all the year round, to be ready against the season of their flight.

M. du Pratz, when he was in America, placed under their roosting-trees, vessels filled with flaming sulphur, the fumes of which brought them to the ground in immense numbers

MAHARAJA SERFOGI ... THE TANJORE ... MAHAL.

Gallinaceous Birds *.

OF THE TURKEY TRIBE IN GENERAL†.

Belonging to the present tribe, two species only have been hitherto discovered; one in America, and the other in the more retired parts of India.

THE AMERICAN OR COMMON TURKEY ‡.

The hunting of these birds forms one of the principal diversions of the natives of Canada. When they have discovered the retreat of the Turkies, which in general is near fields of nettles §, or where there is plenty of any kind of grain, they send a well-trained dog into the midst of the flock. The birds no sooner perceive their enemy, than they run off at full speed, and with such swiftness, that they leave the dog far behind. He, however, follows; and, as they cannot go at this rate for any length of time, at last

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* In the birds of this order the bill is convex, the upper mandible lying in an arch over the lower one; and the nostrils are arched over with a cartilaginous membrane. The feet are formed for running, without a back toe; and the toes are rough underneath.

† The bill is convex, short, and strong. The head and neck, or throat, and in some of the species all three, are covered with naked caruncylated flesh, the skin of which is flaccid, and membranaceous. The tail is broad, and the birds have the power of expanding it.

‡ Synonyms. Meleagris Gallo-pavo. *Linn.*—Dindon. *Buff.*—New England Wild Turkey. *Ray.*—*Bew. Birds, p.* 286.

§ Turkies are particularly fond of the seeds of nettles. The seeds of the fox-glove are a deadly poison to them.

forces them to take shelter in a tree: where they sit, perfectly spent and fatigued, till the hunters come up, and with long poles knock them down one after another.

Turkies were first introduced from North America into England in the reign of Henry the Eighth. According to Tusser's "Five Hundred Pointes of good Husbandrie," it began about the year 1585 to form an article in our rural Christmas feasts:

> Beefe, mutton, and porke, shred pies of the best,
> Pig, veale, goose, and capon, and *turkie* well drest,
> Cheese, apples, and nuts, jolly carols to heare,
> As then in the countrie is counted good cheare.

These birds, among themselves, are extremely furious; and yet against other animals they are generally weak and cowardly. The domestic cock often makes them keep at a distance; and the latter seldom venture to attack him but with united force, when the cock is rather oppressed by their weight, than annoyed by their weapons. There have, however, occurred instances in which the Turkey-cock has not been found wanting in prowess:—A gentleman of New York received from a distance a Turkey-cock and hen, and a pair of bantams, which he put into his yard with other poultry. Some time afterwards, as he was feeding them from the barn-door, a large hawk suddenly turned the corner of the barn, and made a pitch at the Bantam-hen: she immediately gave the alarm, by a noise which is natural to her on such occasions: when the Turkey-cock, who was at the distance of about two yards, and no doubt understood the hawk's intentions and the imminent danger of his old acquaintance, flew at the tyrant with such violence, and gave him so severe a stroke with his spurs when about to seize his prey, as to knock him from the hen to a considerable distance; and the

timely aid of this faithful auxiliary completely saved the bantam from being devoured.

To this I can add another instance (though very different in its nature) of the gallantry of the Turkey-cock; which also affords a singular example of deviation from instinct. In the month of May, 1798, a female Turkey belonging to a gentleman in Sweden was sitting upon eggs; and as the cock in her absence began to appear uneasy and dejected, he was put into the place with her. He immediately sat down by her side; and it was soon found that he had taken some eggs from under her, which he covered very carefully. The eggs were put back, but he soon afterwards took them again. This induced the owner, by way of experiment, to have a nest made, and as many eggs put into it as it was thought the cock could conveniently cover. The bird seemed highly pleased with this mark of confidence; he sat with great patience on the eggs, and was so attentive to the care of hàtching them, as scarcely to afford himself time to take the food necessary for his support. At the usual period, twenty-eight young ones were produced; and the cock, who was in some measure the parent of this numerous offspring, appeared perplexed on seeing so many little creatures picking around him, and requiring his care. It was, however, thought proper not to intrust him with the rearing of the brood, lest he should neglect them; they were therefore taken away and reared by other means.

The disposition of the female is in general much more mild and gentle than that of the male. When leading out her young family to collect their food, though so large and apparently so powerful a bird, she gives them very little protection against the attacks of any rapacious animal that comes in her way. She rather warns them to shift for themselves, than prepares to defend them. "I have heard a Turkey-hen, when at the head of her brood, (says the

Abbé de la Pluche,) send forth the most hideous scream, without my being able to perceive the cause: her young ones, however, immediately when the warning was given, skulked under the bushes, the grass, or whatever else seemed to offer shelter or protection. They even stretched themselves at full length on the ground, and continued lying motionless as if dead. In the mean time the mother, with her eyes directed upwards, continued her cries and screaming as before. On looking up, in the direction in which she seemed to gaze, I discovered a black spot just under the clouds, but was unable at first to determine what it was: however, it soon appeared to be a bird of prey, though at first at too great a distance to be distinguished. I have seen one of these animals continue in this agitated state, and her whole brood pinned down as it were to the ground, for four hours together; whilst their formidable foe has taken his circuits, has mounted, and hovered directly over their heads: at last, upon his disappearing, the parent changed her note, and sent forth another cry, which in an instant gave life to the whole trembling tribe, and they all flocked round her with expressions of pleasure, as if conscious of their happy escape from danger."

It appears that in the wilds of America the Turkey grows to a much larger size than with us. Josselyn says, that he has eaten part of a Turkey-cock which, after it was plucked and the entrails were taken out, weighed thirty pounds. Lawson, whose authority is unquestionable, saw half a Turkey serve eight hungry men for two meals, and says that he had seen others which he believed would each weigh forty pounds. Some writers assert that instances have occurred of Turkies weighing no less than sixty pounds.

The females lay their eggs in spring, generally in some retired and obscure place; for the cock, enraged at the loss of his mate while she is employed in hatching, is apt other-

wise to break them. They sit on their eggs with so much perseverance, that, if not taken away, they will almost perish with hunger before they will entirely leave the nest. They are exceedingly affectionate to their offspring.

Turkies are bred in great numbers in Norfolk, Suffolk, and some other counties, from whence they are driven to the London markets in flocks of several hundreds. The drivers manage them with great facility, by means of a bit of red rag tied to the end of a long stick; which, from the antipathy these birds bear to that colour, effectually answers the purpose of a scourge.

In a wild state Turkies are gregarious; and associate in flocks, consisting sometimes of more than five hundred. They frequent the great swamps of America, to roost; but leave these situations at sun-rise, to repair to the dry woods in search of acorns and berries. They perch on trees, and gain the height they wish by rising from bough to bough: they generally mount to the summits of even the loftiest, so as to be often beyond musket-shot. They are very swift runners, but fly awkwardly; and about the month of March they become so fat that they cannot fly beyond three or four hundred yards, and are then easily run down by a horseman.

It is seldom indeed that wild Turkies are now seen in the inhabited parts of America; and they are only found in any great numbers, in the distant and most unfrequented parts.—If the eggs of these be hatched under tame Turkies, the young ones are said still to retain a certain degree of wildness, and to perch separate from the others; yet they will mix and breed together in the season. The Indians sometimes use the breed produced from the wild birds, to decoy within their reach those still in a state of nature.

The Indians make an elegant clothing of the feathers, They twist the inner webs into a strong double string with hemp, or the inner bark of the mulberry tree, and work it

like matting. This appears very rich and glossy, and as fine as silk shag. The natives of Louisiana make fans of the tail; and of four tails joined together, the French used formerly to construct a parasol.

*OF THE PEACOCK TRIBE IN GENERAL**.

There are only four known species of Peacocks. These are birds, for the most part, of large size. They feed on insects, fruit, and grain. One of them (the common kind) is an inhabitant of Asia and Africa, another of China, the third of Thibet, and the fourth of Japan.

THE CRESTED OR COMMON PEACOCK†.

If, says the Comte de Buffon, empire was claimed by beauty and not by power, the Peacock would, without contradiction, be the king of birds. The elegance of its form, and the brilliancy of its plumage, are exceeded by none of the feathered race. On the Peacock it is that nature appears to have bestowed her treasures with the greatest profusion. Its large size, imposing manner, firm tread, and noble figure: the rich crest upon its head, adorned with the most brilliant colours: its matchless plumage, appearing to combine every thing that can delight the eye—all contend to give it a place high in our esteem. These beautiful plumes, however, are shed every year. At this period the bird seems humiliated; and

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* The bill is strong and convex. The head is covered with feathers which bend backward. The nostrils are large. The feathers of the train are long, broad, expansile, and covered with eye-like spots.

† Synonyms. Pavo cristatus. *Linnæus.*—Le Paon. *Buffon.*—*Bewick's Birds, v.* ii. *p.* 289.

searches the shades, in order to conceal himself from our eyes until a new spring restores to him his usual attire.

It is probably not generally known that the brilliant train of the Peacock is by no means its tail: those long feathers not growing from the *uropygium* (or rump,) but upon the back. A range of short, brown, stiff feathers, fixed upon the rump, is the real tail, and serves as a *fulcrum* to prop the train, which is long and top-heavy when set on end. When the train is elevated, nothing appears of the bird in front, but its head and neck; but this would not be the case, were those long feathers fixed only on the rump, as may be seen by the Turkey-cock, when in a strutting attitude.—By a strong muscular vibration, these birds can make the shafts of their long feathers clatter like the swords of a sword-dancer.

Peacocks are found wild in Asia and Africa; but the largest and finest of these birds are seen in the neighbourhood of the Ganges, and in the fervid plains of India. They are mentioned in the Sacred Writings, where they are enumerated as constituting part of the cargoes of the fleet which imported the treasures of the East to the court of Solomon.

They were highly esteemed by the Romans. Pliny states, that the first person who ordered Peacocks to be served up at his table, was Hortensius, in a grand entertainment which he gave when he was consecrated high priest. Marcus Aufidius Lurco was the first who attempted to fatten these birds in a manner which was peculiar to himself, and by which he is said to have derived an annual income of more than 60,000 sesteræs.

The females lay a few eggs only at a time, and these at a distance of usually three or four days from each other. When they are at liberty and act from natural instincts, they always deposit their eggs in some sequestered or secret place. These are white and spotted, like those of

the turkey. The incubation occupies from twenty-seven to thirty days, according to the temperature of the climate and of the season.

As Peacocks, in this country, are not able to fly very well, they love to climb, from branch to branch, to the tops of the highest trees. From hence, and from the roofs of houses, it is that they usually make their harsh and very peculiar cry. In this, one note is deep and the other sharp, the latter exactly an octave above the former; and both have somewhat of the piercing sound of a trumpet.

These birds, like poultry, feed freely on all kinds of grain. The duration of their life, according to Aristotle, is about twenty-five years.

The female of this species, like that of the pheasant, has sometimes been known to assume the plumes of the male. Lady Tynte had a favourite pied pea-hen, which at eight several times produced chicks. Having moulted when about eleven years old, the lady and her family were astonished by her displaying the feathers peculiar to the other sex, and appearing like a pied Peacock. In this process the tail, which was like that of the cock, first appeared. In the following year she moulted again, and produced similar feathers. In the third year she did the same, and then had also spurs resembling those of the cock. The hen never bred after this change of her plumage.

OF THE PHEASANT TRIBE IN GENERAL.*

The females of this tribe produce many young ones at a brood; which they take care of for some time, leading

* The characters of the present tribe are a short, convex, and strong bill; the head more or less covered with caruncated bare flesh on the sides, which in some species is continued upwards to the

them abroad, and pointing out food for them. These are at first clad with a thick, soft down. The nests of the whole tribe are formed on the ground.

THE COMMON PHEASANT*.

This beautiful bird is very common in almost all the southern parts of the Old Continent, from whence it was originally imported into our country. In America it is not at all known.

Pheasants are much attached to the shelter of thickets and woods, where the grass is very long; but, like partridges, they often breed also in clover fields. They form their nests on the ground: and the females lay from twelve to fifteen eggs, which are smaller than those of the domestic hen. In the mowing of clover near the woods frequented by Pheasants, the destruction of their eggs is sometimes very great. In some places, therefore, game-keepers have directions to hunt them from these fields as soon as they begin to lay, until their haunt is broken, and they retire into the corn. Poultry hens are often kept ready for sitting on any eggs that may be exposed by the scythe; and, with care, great numbers are thus rescued from destruction. The nest is usually composed of a few dry vegetables put carelessly together; and the young ones follow their mother, like chickens, as soon as they break the shell.—The Pheasants and their brood remain in the stubbles and hedge-rows, if undisturbed, for some time after the corn is ripe. If disturbed, they seek the woods, and only issue thence in the mornings and even-

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crown, and beneath so as to hang pendent under each jaw; and the legs in most of the species furnished with spurs.

* Synonyms. Phasianus colchicus. *Linn.*—Faisan. *Buff.*—*Bew. Birds*, p. 282.

ings to feed in the stubbles.—They are fond of corn; but can procure a subsistence without it; since they often feed on the wild berries of the woods, and on acorns.

In confinement the female Pheasant neither lays so many eggs, nor hatches and rears her brood with so much care and vigilance, as in the fields out of the immediate observation of man. In a mew she will very rarely dispose them in a nest, or sit upon them at all. Indeed, in the business of incubation and rearing the young ones, the domestic hen is generally made a substitute for the hen Pheasant.

The wings of these birds are short, and ill adapted for considerable flights. On this account, the Pheasants on the island called *Isola Madre* in the *Lago Maggiore* at Turin, as they cannot fly over the lake, are altogether imprisoned. When they attempt to cross the lake, unless picked up by the boatmen, they are always drowned.

The Pheasant is, in some respects, a stupid bird. On being roused, it will often perch on a neighbouring tree; where its attention will be so fixed on the dogs, as to suffer the sportsman to approach very near. It has been asserted, that the Pheasant imagines itself out of danger whenever its head only is concealed. Sportsmen, however, who recount the stratagems that they have known old cock Pheasants adopt in thick and extensive coverts, when they have found themselves pursued, before they could be compelled to take wing, convince us that this bird is by no means deficient in at least some of the contrivances necessary for its own preservation.

As the cold weather draws on, the Pheasants begin to fly at sunset into the branches of the oak-trees, for roosting during the night. This they do more frequently as the winter advances, and the trees lose their foliage. The male birds, at these times, make a noise, which they repeat three or four times successively, called by sportsmen

cocketing. The hens, on flying up, utter one *shrill whistle*, and then are silent. Poachers avail themselves of these notes, to discover the roosting places, where (in woods that are not well watched) they shoot them with the greatest certainty. Where woods are watched, the poacher, by means of phosphorus, lights a number of brimstone matches; and the moment the sulphureous fumes reach the birds, they drop into his possession. Or he fastens a snare of wire to the end of a long pole; and, by means of this, drags them, one by one, from the trees. He sometimes too catches these birds in nooses made of wire, or twisted horsehair, or even with a brier set in the form of a noose, at the verge of a wood. The birds entangle themselves in these, as they run, in the morning or evening, into the adjacent fields to feed. Foxes destroy great numbers of Pheasants.

The males begin to *crow* the first week in March. This noise can be heard at a considerable distance.—They occasionally come into farm-yards in the vicinity of coverts where they abound, and sometimes produce a cross breed with the common fowls.

It has been contended that Pheasants are so shy, as not to be tamed without great difficulty. Where, however, their natural fear of man has been counteracted, from their having been bred under his protection; and where he has almost constantly appeared before their eyes in their coverts, they will come to feed immediately on hearing the keeper's whistle. They will follow him in flocks; and scarcely allow the peas to run from his bag into the troughs placed for the purpose, before they begin to eat. Those that cannot find room at one trough, follow him with the same familiarity to others.

Pheasants are found in most parts of England, but are by no means plentiful in the north; and they are seldom seen in Scotland. Wood and corn lands seem necessary to their existence.—Were it not for the exertions of gen-

tlemen of property, in preserving these birds in their woods from the attacks of sportsmen, it is more than probable that in the course of a few years the breed would be extinct. The demand for them at the tables of the luxurious, and the easy mark they offer to the sportsman, particularly since the art of *shooting flying* has been generally practised, would soon complete their destruction. Mr. Stackhouse, of Pendarvis in Cornwall, informs me, that above forty years ago, he recollects hearing old people say, that in their youth, and in the generation before them, Pheasants were very plentiful in that county. The race has there been long unknown.

The general weight of male Pheasants is from two pounds and twelve ounces, to three pounds and four ounces. That of the hens is usually about ten ounces less.

The female birds have sometimes been known to assume the elegant plumage of the male. But with Pheasants in a state of confinement, those that take this new plumage always become barren, and are spurned and buffeted by the rest. From what took place in a hen Pheasant, in the possession of a lady, a friend of Sir Joseph Banks, it would seem probable that this change arises from some alteration of temperament at a late period of the animal's life. This lady had paid particular attention to the breeding of Pheasants. One of the hens, after having produced several broods, moulted, and the succeeding feathers were exactly those of a cock. This animal never afterwards had young ones.

THE DOMESTIC COCK *.

This bird differs very much from the wild descendants of its primitive stock; which are said to inhabit the forests of India, and most of the islands of the Indian seas.

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* SYNONYMS. Phasianus Gallus. *Linn.*—Coq commun. *Buff.* —*Bew. Birds, p.* 276.

His beautiful plumage and undaunted spirit, as well as his great utility, have rendered him a favourite in all countries where he has been introduced. His courage is scarcely to be subdued by the most powerful assailants; and though he should die in the effort, he will defend his females against enemies that are infinitely stronger than himself.

"I have just witnessed (says the Comte de Buffon) a curious scene. A sparrow-hawk alighted in a populous court-yard: a young Cock of this year's hatching instantly darted at him, and threw him on his back. In this situation the hawk defended himself with his talons and his bill, intimidating the hens and turkies, which screamed tumultuously round him. When he had a little recovered himself, he rose and was taking wing; when the Cock rushed upon him a second time, overturned him, and held him down so long, that he was caught."

The Cock is very attentive to his females, hardly ever losing sight of them. He leads, defends, and cherishes them; collects them together when they straggle; and seems to eat unwillingly till he sees them feeding around him. Whenever any strange Cock appears within his domain, he immediately attacks the intruder, and if possible drives him away.

His jealousy does not, however, seem to be altogether confined to his rivals. It has sometimes been observed to extend even to his beloved female; and he appears capable of being actuated by revenge, founded on suspicions of her conjugal infidelity. Dr. Percival, in his Dissertations, relates an incident that happened at the seat of a gentleman near Berwick, which justifies this remark. "My mowers," says this gentleman, "cut a partridge on her nest; and immediately brought the eggs (fourteen) to the house. I ordered them to be put under a very large beau-

tiful hen, and her own to be taken away. They were hatched in two days, and the hen brought them up perfectly well till they were five or six weeks old. During that time they were constantly kept confined in an out-house, without being seen by any of the other poultry. The door happening to be left open, the Cock got in. My housekeeper, hearing the hen in distress, ran to her assistance; but did not arrive in time to save her life. The Cock, finding her with the brood of partridges, had fallen upon her with the utmost fury, and killed her. The housekeeper found him tearing her with both his beak and spurs; although she was then fluttering in the last agony, and incapable of any resistance. This hen had formerly been the Cock's greatest favourite."

The patience and perseverance of the hen in hatching, are truly extraordinary. She covers her eggs with her wings, fostering them with a genial warmth; and often turns them, and changes their situations, that all their parts may receive an equal degree of heat. She seems to perceive the importance of her employment; and is so intent in her occupation, as to neglect in some measure even the necessary supplies of food and drink. In about three weeks the young brood burst from their confinement; when, in her present character of a mother, from the most cowardly and voracious she becomes (in the protecting of her young) the most daring and abstemious of all animals. If she casts her eyes on a grain of corn, a crumb of bread, or any aliment, though ever so inconsiderable, that is capable of division, she will not touch the least portion of it; but gives her numerous train immediate notice of her success by a peculiar call, which they all understand. They flock in an instant around her, and the whole treasure is appropriated to them. Though by nature timid, and apt to fly from the smallest assailant; yet when marching at the head of her brood, she is a

heroine, she is fearless of danger, and will fly in the face of the fiercest animal that offers to annoy her.

As the chickens reared by the hen bear no proportion to the number of eggs she produces, many artificial schemes of rearing them have been attempted. The most successful, though by no means the most humane, is said to be where a capon is made to supply the place of a hen. He is rendered very tame; the feathers are plucked from his breast, and the bare parts are rubbed with nettles. The chickens are then put to him; and, by their running under his breast with their soft and downy bodies, his pain is so much allayed, and he feels so much comfort to his featherless body, that he soon adopts them, feeding them like a hen, and assiduously performing all the functions of the tenderest parent.

Chickens have long been hatched in Egypt by means of *artificial heat*. This is now chiefly practised by the inhabitants of a village called Berme, and by those who live at a little distance from it. Towards the beginning of autumn, these persons spread themselves all over the country; and each of them is ready to undertake the management of an oven. These ovens are of different sizes, each capable of containing from forty to eighty thousand eggs; and the number of ovens in differeut parts is about three hundred and eighty-six. They are usually kept in exercise for about six months; and, as each brood takes up twenty-one days in hatching, it is easy, in every one of them, to produce eight different broods of chickens in the year.

The ovens, where these eggs are placed, are of the most simple construction; consisting only of a low arched apartment of clay. Two rows of shelves are formed, and the eggs are placed on these in such a manner as not to touch each other. They are slightly moved five or six

times in every twenty-four hours. All possible care is taken to diffuse the heat equally throughout; and there is but one aperture, just large enough to admit a man stooping. During the first eight days the heat is rendered great; but during the last eight it is gradually diminished, till at length, when the young brood are ready to come forth, it is reduced almost to the state of the natural atmosphere. By the end of the first eight days it is known which of the eggs will be productive.

Every person who undertakes the care of an oven, is under the obligation only of delivering to his employer two-thirds of as many chickens as there have been eggs given to him; and he is a gainer by this bargain, as it always happens, except from some unlucky accident, that many more than that proportion of the eggs produce chickens.

A calculation has been made of the number of chickens thus hatched every year in Egypt, on the supposition that upon an average only two-thirds of the eggs are productive, and that each brood consists of at least 30,000 chickens; and from this it appears that the ovens in that country give life annually to almost a hundred millions of these animals.

This useful and advantageous mode of hatching eggs, was introduced into France by the ingenious M. de Reaumur; who, by a number of experiments reduced the art to certain principles. He found that the degree of heat necessary for producing all kinds of domestic fowls was the same; the only difference consisting in the time during which it ought to be communicated to the eggs: it will bring the canary-bird to perfection in eleven or twelve days, while the turkey-poult requires twenty or twenty-eight.

M. de Reaumur found that stoves heated by means of pipes from a baker's oven, or the furnaces of glasshouses,

succeeded better than those made hot by layers of dung, the mode preferred in Egypt. These should have their heat kept as nearly equal as possible; and the eggs should be frequently removed from the sides into the middle, in order that each may receive an equal portion.—After his eggs were hatched, he had the offspring put into a kind of low boxes without bottoms, and lined with fur; whose warmth supplied the place of a hen, and in which the chickens could at any time take shelter. These were kept in a warm room till the chickens acquired some strength; they then could, with safety, be exposed to the open air, in a court-yard.

As to the mode in which the young brood are fed—they are generally a whole day after being hatched, before they take any food at all: a few crumbs of bread are given for the subsequent day or two, after which time they begin to pick up insects and grain for themselves. But in order to save the trouble of attending them, capons are taught to watch them in the same manner as hens. M. de Reaumur says, that he has seen above two hundred chickens at once, all led about and defended by only three or four capons. It is asserted, that even Cocks may be taught to perform this office.

The progress of the incubation of the chicken in the natural way, is a subject too curious and too interesting to be passed over without notice. The hen has scarcely sat on the egg twelve hours, before some lineaments of the head and body of the chicken appear. The heart may be seen to beat at the end of the second day: it has at that time somewhat the form of a horse-shoe, but no blood yet appears. At the end of two days, two vesicles of blood are to be distinguished, the pulsation of which is very visible: one of these is the left ventricle, and the other the root of the great artery. At the fiftieth hour, one auricle of the heart appears, resembling a noose folded

down upon itself. The beating of the heart is first observed in the auricle, and afterwards in the ventricle. At the end of seventy hours, the wings are distinguishable; and on the head two bubbles are seen for the brain, one for the bill, and two others for the fore and hind part of the head. Towards the end of the fourth day, the two auricles, already visible, draw nearer to the heart than before. The liver appears towards the fifth day. At the end of a hundred and thirty-one hours, the first voluntary motion is observed. At the end of seven hours more, the lungs and stomach become visible; and four hours after this, the intestines, the loins, and the upper jaw. At the hundred and forty-fourth hour, two ventricles are visible, and two drops of blood instead of the single one which was seen before. The seventh day, the brain begins to have some consistence. At the hundred and ninetieth hour of incubation, the bill opens, and the flesh appears in the breast; in four hours more, the breast-bone is seen; and in six hours after this, the ribs appear forming from the back, and the bill is very visible, as well as the gall-bladder. The bill becomes green at the end of two hundred and thirty-six hours; and if the chicken be taken out of its coverings, it evidently moves itself. The feathers begin to shoot out towards the two hundred and fortieth hour, and the scull becomes gristly. At the two hundred and sixty-fourth hour, the eyes appear. At the two hundred and eighty-eighth, the ribs are perfect. At the three hundred and thirty-first, the spleen draws near the stomach, and the lungs to the chest. At the end of three hundred and fifty-five hours, the bill frequently opens and shuts; and at the end of the eighteenth day, the first cry of the chicken is heard. It afterwards gets more strength, and grows continually, till at length it is enabled to set itself free from its confinement.

In the whole of this process, we must remark that every

part appears exactly at its proper time: if, for example, the liver is formed on the fifth day, it is founded on the preceding situation of the chicken, and on the changes that were to follow. No part of the body could possibly appear either sooner or later, without the whole embryo suffering; and each of the limbs becomes visible at the fit moment. This ordination, so wise and so invariable, is manifestly the work of a Supreme Being: but we must still more sensibly acknowledge his creative powers, when we consider the manner in which the chicken is formed out of the parts which compose the egg. How astonishing must it appear to an observing mind, that in this substance there should be, at all, the vital principle of an animated being! That all the parts of an animal's body should be concealed in it, and require nothing but heat to unfold and quicken them! That the whole formation of the chicken should be so constant and regular! That, exactly at the same time, the same changes will take place in the generality of eggs! That the chicken, the moment it is hatched, is heavier than the egg was before! But even these are not all the wonders in the formation of the bird from the egg (for this instance will serve to illustrate the whole of the feathered tribes:) there are others, altogether hidden from our observation; and of which, from our very limited faculties, we must ever remain ignorant.

I cannot take leave of this animal, without a few observations on the savage diversion of cock-fighting; which (to the disgrace of a Christian nation) is encouraged, not merely by the lowest and meanest, but by some persons that are stationed even in the highest ranks of society. The Shrove-Tuesday massacre of throwing at these unfortunate animals is, indeed, almost discontinued; but the cock-pit yet remains a reproach to the characters of Englishmen. The refinements which in this country have taken place in the pitting of these courageous birds against each other,

would strike almost the rudest of the savage tribes of mankind with horror. The Battle-royal and the Welsh-main would scarcely be tolerated by any other nation of the world. In the former, an unlimited number of Cocks are pitted, of which only the last-surviving bird is accounted the victor. Thus, suppose there was at first sixteen pair of Cocks: of these, sixteen are killed; the remaining sixteen are pitted a second time; the eight conquerors of these are pitted a third time; the four conquerors a fourth time; and lastly, the two conquerors of these the fifth time: so that (incredible barbarity!) thirty-one Cocks must be inhumanly murdered in a single battle, for the sport and pastime of men who bear the sacred name of Christians.

> Are these your sovereign joys, Creation's lords?
> Is death a banquet for a godlike soul?

The greatest rivals of the English in the practice of cock-fighting, are the inhabitants of Sumatra and some other parts of the East. They indeed pay, perhaps, a greater attention to the training and feeding of these birds than we ever did, even when that diversion was at its height among us. They arm one of the legs only, not with a slender gaff as we do, but with a little implement in the form of a scymiter, with which the animals make the most terrible destruction. The Sumatrians fight their Cocks for vast sums: a man has been known to stake his wife or children, and a son his mother or sisters, on the issue of a battle. In disputed points, four arbitrators are appointed; and if they cannot agree, there is no appeal but to the sword. Some of these people have a notion that their Cocks are invulnerable: a father on his death-bed has, under this persuasion, been known to direct his son to lay his whole property on a certain bird, fully persuaded of consequent success.

OF THE PINTADO TRIBE*.

The four species of Pintado hitherto known are all natives of Africa, and of islands adjacent to the African coast. Their mode of feeding is similar to that of the domestic poultry: they scrape the ground with their feet in search of insects, worms, and seeds.

THE COMMON GUINEA-FOWL†.

In a wild state it is asserted that these birds associate in numerous flocks. Dampier speaks of having seen betwixt two and three hundred of them together, in the Cape de Verd Islands. They were originally introduced into our country from the coast of Africa, somewhat earlier than the year 1260.

They are now sufficiently common in the poultry yards of Great Britain; but, from the circumstance of the young ones being difficult to rear, they are not bred in numbers at all equal to those of the domestic poultry. The females lay and hatch their eggs nearly in the same manner as the common hens. The eggs, however, are proportionally smaller than those of the hen, and have a harder shell. The Comte de Buffon states that there is a remarkable difference betwixt the eggs of the domestic Guinea-fowls, and of those which are wild; the latter being marked with small, round

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* The bill is strong and short, and the base covered with a carunculated cere, which receives the nostrils: on the head there is a horny or callous protuberance. The tail feathers are short, and bend downward. The feathers of the body are speckled.

† SYNONYMS. Numidia meleagris. *Linn.*—La Pintade. *Buff.*—Guinea Pintado. *Willughby.*—Pintado, Pearled Hen, and Gallina, in various parts of England.—*Bewick's Birds*, i. 305.

spots, like those on the plumage of the birds; and the former being, when first laid, of a tolerably bright red, and afterwards of the faint colour of a dried rose. The young birds, for some time after they come into the world, are destitute of the helmet, or callous protuberance which is so conspicuous on the heads of the old ones.

The voice of the Guinea-fowl is harsh, and, to some persons, unpleasant. It consists chiefly of two notes, *ca-mac*, *ca-mac*, *ca-mac*, frequently repeated. It is a restless and clamorous bird. During the night it perches on high places; and, if disturbed, alarms every animal within hearing, by its unceasing cry. It is also one of those birds, which delight in rolling themselves in the dust, for the purpose, as some naturalists have conjectured, of ridding themselves of insects.

If trained when young, these birds may soon be rendered tame and familiar. M. Brüe informs us, that when he was on the coast of Senegal, he received, as a present from an African princess, two Guinea-fowls. Both these birds were so familiar, that they would approach the table and eat out of his plate; and when they had liberty to fly about upon the beach, they always returned to the ship, when the dinner or supper bell rang.

It is even said that the wild birds will sometimes receive food from the hand, almost immediately after they are caught. These delight chiefly in marshy and morassy places, where they subsist almost wholly on insects, worms, and seeds.

They are found in nearly all the countries of the western part of Africa, from Barbary, southward, to the Cape of Good Hope. They are natives likewise of the Isles of France and Bourbon, of Madagascar and the Cape de Verd Islands.

Amongst the Romans they were in great repute for the table; and, on account of their scarcity, were generally

sold for a high price. They are at present much esteemed in this country, their flavour being considered, by some persons, to resemble that of the pheasant. The eggs are a very delicate food.

*OF THE GROUS IN GENERAL**.

The birds of this tribe, which are known in Great Britain, are the different species of Grous, Partridges, and Quails. Of these, the Grous are inhabitants chiefly of bleak and mountainous tracts of country. To defend them from the effects of cold, their legs are feathered down to the toes. The nostrils are small, and are hidden under the feathers. Their legs are stout, and the tail generally long. Partridges and Quails inhabit warmer and more cultivated parts of the country. Their tail is short, and their nostrils are covered with a hard prominent margin.

THE RUFFED GROUS†.

The Ruffed Grous has hitherto been found only on the New Continent. It is a fine bird when his gaiety is displayed; that is, when he spreads his tail like that of a turkey-cock, and erects the circle of feathers round his

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* The Grous have strong, convex bills; and some of the species have a naked scarlet skin above each eye.—The flesh of all the species is brown, but is excellent food.

† DESCRIPTION. The size of this bird is between that of a pheasant and partridge. The bill is brownish. The head is crested; and, as well as all the upper parts, is variegated with different tints of brown mixed with black. The feathers on the neck are long and loose; and may be erected at pleasure, like those of the cock. The throat and the fore part of the neck are orange brown; and the rest of the under parts yellowish white, having a few curved marks on the breast and sides. The tail consists of eighteen feathers; all of

neck like a ruff, walking with a very stately and even pace, and making a noise somewhat like a turkey. This is the moment that the sportsman seizes to fire at him; for, if the bird sees that he is discovered, he immediately flies off to the distance of some hundred yards before he again settles.

There is something very remarkable in what is called the *thumping* of these birds. This they do, as the sportsmen tell us, by clapping their wings against their sides. They stand upon an old fallen tree, and in this station they begin their strokes gradually, at about two seconds of time from one another, and repeat them quicker and quicker, until they make a noise not unlike distant thunder. This continues from the beginning about a minute; the bird ceases for six or eight minutes, and then begins again. The sound is often heard at the distance of nearly half a mile; and sportsmen take advantage of this note, to discover the birds, and shoot them. The Grous commonly practice their *thumping* during the spring and fall of the year; at about nine or ten o'clock in the morning, and four or five in the afternoon.

The history of these birds is thus further illustrated by Mr. Brooke, of Maryland in North America:—"They lay their eggs, from twelve to sixteen in number, in nests which they make either by the side of fallen trees, or the roots of standing ones. I have found their nests when a boy, and have endeavoured to take the old bird, but never could succeed: she would let me put my hand almost upon her before she would quit her nest; then by artifice

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which are crossed with narrow bars of black, and one broad band of the same near the end. The legs are covered to the toes (which are flesh-coloured, and pectinated on the sides) with whitish hairs.

SYNONYMS. Tetrao umbellus. *Linn.*—Coq de bruyère a fraise. *Buff.*—Ruffed Heathcock. *Edwards.*—Ruffed Grous. *Latham.*

would draw me off from her eggs, by fluttering just before me for a hundred paces or more, so that I have been in constant hopes of taking her. When the nestlings are hatched, and a few days old, they hide themselves so artfully among the leaves, that it is difficult to find them.

THE BLACK GROUS*.

In the northern parts of England these birds were formerly to be found in great abundance, but of late years they have become very scarce. This is owing to various causes; but principally to the great improvement in the art of shooting-flying, and to the enclosure of waste lands. Some few are yet found in Wales; and in particular parts of the New Forest in Hampshire they are in tolerable plenty, being preserved as royal game, and always excepted in the warrants to kill game there. They are partial to mountainous and woody situations, far removed from the habitations of men.

Their food is various; but principally consists of the mountain fruits and berries, and, in winter, of the tops of heath. It is somewhat remarkable that cherries and peas

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* Description. The weight of an old black cock is nearly four pounds; but that of the female is not often more than two.—The plumage of the whole body of the male is black, and glossed over the neck and rump with a shining blue. The coverts of the wings are of a dusky brown: the four first quill feathers are black, the next white at the bottom. The lower half, and the tips, of the secondary feathers, are white. The inner coverts of the wings are white. The tail is much forked: the exterior feathers bend greatly outwards, and their ends seem as if cut off. The colours of the female differ considerably from those of the male: the tail also is but slightly forked.

Synonyms. Tetrao tetrix. *Linn.*—Heath-cock, Black Game, or Grous. *Will.*—Black Cock. *Penn.*—*Bew. Birds, vol.* i. p. 298.

are fatal to these birds. They perch and roost in the same manner as the pheasant.

The Black Grous never pair; but in the spring the males assemble at their accustomed resorts on the tops of heathy mountains, where they *crow* and *clap their wings*. The females, at this signal, resort to them. The males are very quarrelsome, and fight together like game cocks. On these occasions they are so inattentive to their own safety, that it has often happened that two or three have been killed at one shot; and instances have occurred of their having been knocked down with a stick.

The female forms an artless nest on the ground; and lays six or eight eggs of a dull yellowish white colour, marked with numerous very small ferruginous specks, and, towards the smaller end, with some blotches of the same. These are hatched late in the summer. The young males quit their parent in the beginning of winter, and keep together in flocks of seven or eight till the spring.

These birds will live and thrive in menageries, but they have not been known to breed in a state of confinement. In Sweden, however, a spurious breed has sometimes been produced with the domestic hen.

In Russia, Norway, and other extreme northern countries, the Black Grous are said to retire under the snow during winter.—The shooting of them in Russia is thus conducted: Huts full of loop-holes, like little forts, are built for the purpose, in woods frequented by these birds. Upon the trees within shot of the huts, are placed artificial decoy birds. As the Grous assemble, the company fire through the openings; and so long as the sportsmen are concealed, the report of the guns does not frighten the birds away. Several of them may therefore be killed from the same tree, when three or four happen to be perched on branches one above another. The sportsman has only to shoot the undermost bird first, and the others upward in

succession. The uppermost bird is earnestly employed in looking down after his fallen companions, and keeps chattering to them till he becomes himself the victim.

During the winter the inhabitants of Siberia take these birds in the following manner: A number of poles are laid horizontally on forked sticks, in the open birch forests. Small bundles of corn are tied on these, by way of allurement; and, at a little distance, some tall baskets of a conical shape are placed, having their broad part uppermost. Just within the mouth of each basket is placed a small wheel; through which passes an axis so nicely fixed, as to admit it to play very readily, and, on the least touch either on one side or the other, to drop down and again recover its situation. The Black Grous are soon attracted by the corn on the horizontal poles. The first comers alight upon them, and after a short repast fly to the baskets, and attempt to settle on their tops; when the wheel drops sideways, and they fall headlong into the trap. These baskets are sometimes found half-full of birds thus caught.

THE RED GROUS, OR RED GAME*.

The heathy and mountainous parts of the northern counties of England are in general well stocked with Red Grous. These birds are likewise very common in Wales,

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* DESCRIPTION. The weight of the male is about nineteen and of the female fifteen ounces. The bill is black; and at the base of the lower mandible there is on each side a white spot. Each eye is arched with a large, naked, scarlet spot. The throat is red. The plumage of the upper parts of the body is mottled with dusky red and black. The breast and belly are purplish, crossed with small dusky lines.

SYNONYMS. Tetrao Scoticus. *Linn. Gmel.*—Red Game, Gorcock, or Moorcock. *Will.*—Moor-fowl, in Scotland.—*Bew. Birds, vol.* i. *p.* 301.

and the Highlands of Scotland; but they have not yet been observed in any of the countries of the Continent.

In winter they are usually found in flocks of sometimes forty or fifty in number, which are termed by sportsmen *packs*, and become remarkably shy and wild. They keep near the summits of the heathy hills, seldom descending to the lower grounds. Here they feed on the mountain berries, and on the tender tops of the heath.

They pair in spring; and the females lay from six to ten eggs, in a rude nest formed on the ground. The young brood (which during the first year are called *poults*) follow the hen till the approach of winter; when they unite, with several others, into packs.

Red Grous have been known to breed in confinement, in the menagerie of the late Duchess Dowager of Portland. This was in some measure effected by her Grace causing fresh pots of heath to be placed in the menagerie almost every day.

The flesh, as in all others of this tribe, is an excellent food, but it soon corrupts. To prevent this, the birds should be drawn immediately after they are shot.

THE PTARMIGAN, OR WHITE GAME*.

These birds moult in the winter months, changing at this season their summer dress for one more warm; and, instead

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* DESCRIPTION. The Ptarmigan is somewhat larger than a Pigeon. Its bill is black; and its plumage, in summer, is of a pale brown colour, elegantly mottled with small bars and dusky spots. The head and neck are marked with broad bars of black, rust-colour, and white. The wings and belly are white.

SYNONYMS. Tetrao lagopus. *Linn.*—Lagopede. *Buff.*—White Game. *Willughby.*—Snicariper. *Scheffer.*—Snoripa, in Lapland. *Consett.*—Willow Partridge, about Hudson's Bay.—*Bew. Birds*, *p.* 303.—*Pen. Brit. Zool.* i. *tab.* 43.

of having their feathers of many colours, they then become white. By a wonderful provision, every feather also, except those of the wings and tail, becomes double; a downy one shooting out of the base of each; which gives an additional protection against the cold. In the latter end of February a new plumage begins to appear; the first rudiments of the coat they assume in the warm season, when each feather is single. In answer to inquiries made, by Sir Joseph Banks, Dr. Solander, and some other naturalists, of Captain George Cartwright, who resided many years on the coast of Labrador, on the subject of the Grous changing the colour of their plumage, he says, "I took particular notice of those I killed; and can aver, for a fact, that they get at this time of the year (September) a very large addition of feathers, all of which are white; and that the coloured feathers at the same time change to white. In spring, most of the white feathers drop off, and are succeeded by coloured ones; or, I rather believe, all the white ones drop off, and they get an entirely new set. At the two seasons they change very differently: in the spring beginning at the neck, and spreading from thence; now they begin on the belly, and end on the neck."

Their feet, by being feathered entirely to the toes, are protected from the cold of the northern regions*. Every morning they take a flight directly upwards into the air, apparently to shake the snow from their wings and bodies. They feed in the mornings and evenings, and in the middle of the day they bask in the sun.

About the beginning of October they assemble in flocks

* Mr. Barrington says, that in summer both their legs and feet are rather bare of plumage; and that although in winter the feathers wrap very closely round the toes, yet none of them spring from beneath. *Phil. Tran.*

of a hundred and fifty or two hundred, and live much among the willows, the tops of which they eat. In December they retire from the flats about Hudson's Bay to the mountains, where in that month the snow is less deep than in the low lands, to feed on the mountain berries.

Some of the Greenlanders believe that the Ptarmigans, in order to provide a subsistence through the winter, collect a store of mountain berries into some crevice of a rock near their retreat. It is, however, generally supposed, that, by means of their long, broad, and hollow nails, they form lodges under the snow, where they lie in heaps to protect themselves from the cold. During winter they are often seen flying in great numbers among the rocks.

Though sometimes found in the mountains of the north of Scotland, the Ptarmigans are chiefly inhabitants of that part of the globe which lies about the Arctic Circle. Their food consists of the buds of trees, young shoots of pine, heath, and fruits and berries which grow on the mountains. They are so stupid and silly, as oftentimes to suffer themselves, without the least difficulty, to be knocked on the head, or to be driven into any snare that is set for them. They frequently stretch out their neck, apparently in curiosity, and remain otherwise unconcerned, while the fowler takes aim at them. When frightened, they fly off; but immediately afterwards alight, and stand staring at their foe. If the hen bird is killed, it is said that the male will not forsake her, but may then also be killed with great ease. So little alarmed are they at the presence of mankind, as even to bear driving like poultry: yet, notwithstanding this apparent gentleness of disposition, it is impossible to domesticate them; for when caught they refuse to eat, and always die soon afterwards.

Their voice is very extraordinary; and they do not often exert it except in the night. It is very rarely that they are found in Denmark: but, by some accident, one of these

birds, several years ago, happened to stray within a hundred miles of Stockholm, which very much alarmed the common people of the neighbourhood; for, from its nightly noise, a report soon arose that the wood, where it took up its residence, was haunted by a ghost. So much were the people terrified by this supposed sprite, that nothing could tempt the post-boys to pass the wood after dark. The spirit was, however, at last happily removed; by some gentlemen sending their game-keepers into the wood by moonlight, who soon discovered and killed the harmless Ptarmigan.

Ptarmigans form their nests on the ground, in dry ridges; and lay from six to ten dusky eggs with reddish-brown spots.

The usual method of catching these birds is by means of nets made of twine, twenty feet square, connected to four poles, and propped with sticks in front. A long line is fastened to these, the end of which is held by a person who lies concealed at a distance. Several people drive the birds within reach of the net; which is then pulled down, and is often found to cover fifty or sixty of them. They are in such plenty in the northern parts of America, that upwards of ten thousand are frequently caught for the use of the Hudson's Bay Settlement, between November and May.

The Laplanders catch them by means of a hedge formed with the branches of birch trees, and having small openings, at certain intervals, with a snare in each. The birds are tempted to feed on the buds and catkins of the birch; and whenever they endeavour to pass through the openings, they are instantly caught.

They are excellent food, being said to taste so like the common grous, as to be scarcely distinguishable from it.

THE PARTRIDGE*.

The extremes of heat and cold are alike unfavourable to the propagation of the Partridge. It also flourishes best in cultivated countries, living principally on the labours of the husbandman. In Sweden these birds burrow beneath the snow; and the whole covey crowds together under this shelter, to guard against the intense cold. In Greenland, the Partridge is brown during summer; but, as soon as the winter sets in, it becomes clothed with a thick and warm down, and its exterior feathers assume the colour of the snow.

Partridges have ever held a distinguished place at the tables of the luxurious, both in this country and in France. We have an old distich:

> If the Partridge had the Woodcock's thigh,
> 'Twould be the best bird that e'er did fly.

They pair about the third week in February; and sometimes, after pairing, if the weather be very severe, they collect together, and again form into coveys. The female lays her eggs, usually from fifteen to eighteen in number, in a rude nest of dry leaves and grass, formed upon the ground †: these are of a greenish-grey colour. The period of incubation is three weeks. So closely do these birds sit on their eggs when near hatching, that a Partridge with her nest has been carried in a hat to some distance, and in confinement she has continued her incubation, and

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* SYNONYMS. Tetrao Perdix. *Linn.*—Perdix grise. *Buff.*—*Bew. Birds, p.* 305.

† So many as *thirty-three* eggs have been found in one nest, and of these twenty-three produced young ones. *Daniel.*

there produced young ones*.—The great hatch is about the first ten days in June; and the earliest birds begin to fly towards the latter end of that month. The young brood are able to run about as soon as they are hatched, and they are even sometimes seen incumbered with a piece of the shell sticking to them. The parents immediately lead them to ant-hills, on the grubs of which insects they at first principally feed.

At the season when the Partridge is produced, the various species of ants loosen the earth about their habitations. The young birds therefore have only to scrape away the earth, and they can satisfy their hunger without difficulty. A covey that some years ago invited the attention of the Rev. Mr. Gould, gave him an opportunity of remarking the great delight they take in this kind of food. On his turning up a colony of ants, and withdrawing to some distance, the parent birds conducted their young ones to the hill, and fed very heartily. After a few days they grew more bold, and ventured to eat within twelve or fourteen yards of him. The surrounding grass was high; by which means they could, on the least disturbance, immediately run out of sight and conceal themselves. The excellence of this food for Partridges may be ascertained from the circumstance of those that are bred up under a domestic hen, if constantly supplied with ants' grubs and fresh water, seldom failing to arrive at maturity. Along with the grubs it is recommended to give them, at intervals, a mixture of millepedes, or wood-lice, and earwigs, to prevent their surfeiting on one luxurious diet; fresh curds mixed with lettuce, chickweed, or groundsel, should also be given them.

The affection of Partridges for their offspring is peculiarly interesting. Both the parents lead them out to feed;

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‡ This circumstance was related to Mr. Montagu, by a gentleman of undoubted veracity See *Montagu*, art. *Partridge*.

they point out to them the proper places for their food, and assist them in finding it by scratching the ground with their feet. They frequently sit close together, covering the young ones with their wings; and from this situation they are not easily roused. If, however, they are disturbed, most persons acquainted with rural affairs know the confusion that ensues. The male gives the first signal of alarm, by a peculiar cry of distress; throwing himself at the same moment more immediately into the way of danger, in order to mislead the enemy. He flutters along the ground, hanging his wings, and exhibiting every symptom of debility. By this stratagem he seldom fails of so far attracting the attention of the intruder, as to allow the female to conduct the helpless, unfledged brood into some place of security.—"A Partridge (says Mr. White, who gives an instance of this instinctive sagacity) came out of a ditch, and ran along shivering with her wings, and crying out as if wounded and unable to get from us. While the dam feigned this distress, a boy who attended me saw the brood, which was small and unable to fly, run for shelter into an old fox's hole, under the bank."—Mr. Markwick relates that "as he was once hunting with a young pointer, the dog ran on a brood of very small Partridges. The old bird cried, fluttered, and ran tumbling along just before the dog's nose, till she had drawn him to a considerable distance; when she took wing and flew further off, but not out of the field. On this the dog returned nearly to the place where the young ones lay concealed in the grass; which the old bird no sooner perceived than she flew back again, settled just before the dog's nose, and a second time acted the same part, rolling and tumbling about till she drew off his attention from her brood, and thus succeeded in preserving them."—This gentleman says also, that when a kite was once hovering over a covey of young Partridges, he saw the old birds fly up at the ferocious

enemy, screaming and fighting with all their might to preserve their brood.

The eggs of the Partridge are frequently destroyed by weasels, stoats, crows, magpies, and other animals. When this has been the case, the female frequently makes another nest and lays afresh. The produce of these second hatchings are those small birds that are not perfectly feathered in the tail till the beginning of October. This is always a puny, sickly race; and the individuals seldom outlive the rigours of the winter.

It is said that those Partridges which are hatched under a domestic hen, retain through life the habit of *calling* whenever they hear the clucking of hens.

Thé Partridge, even when reared by the hand, soon neglects those who have the care of it; and, shortly after its full growth, altogether estranges itself from the house where it was bred. This will invariably be its conduct, however intimately it may have connected itself with the place and inhabitants in the early part of its existence. Among the very few instances of the Partridge's remaining tame, was that of one reared by the Rev. Mr. Bird. This, long after its full growth, attended the parlour at breakfast and other times, received food from any hand that gave it, and stretched itself before the fire and seemed much to enjoy the warmth. At length, it fell a victim to the decided foe of all favourite birds, a cat.

On the farm of Lion Hall, in Essex, belonging to Colonel Hawker, a Partridge, in the year 1788, formed her nest, and hatched sixteen eggs, *on the top of a pollard oak tree.* What renders this circumstance the more remarkable is, that the tree had, fastened to it, the bars of a stile, where there was a footpath; and the passengers, in going over, discovered and disturbed her before she sat close. When the brood was hatched, they scrambled down the short and

rough boughs, which grew out all around from the trunk of the tree, and reached the ground in safety.

In the year 1798, the following occurrence took place at East Dean in Sussex; which will tend to prove that Partridges have no powers of migration.—A covey of sixteen Partridges, being disturbed by some men at plough, directed their flight across the cliff to the sea, over which they continued their course about three hundred yards. Either intimidated or otherwise affected by that element, the whole were then observed to drop into the water. Twelve of them were soon afterwards floated to shore by the tide; where they were picked up by a boy, who carried them to Eastbourn and sold them.

It has long been a received opinion among sportsmen, as well as naturalists, that the female Partridge has none of the bay feathers of the breast like the male. This, however, on dissection, has proved to be a mistake; for, Mr. Montagu happening to kill nine birds in one day, with very little variation as to the bay mark on the breast, he was led to open them all, and discovered that five of them were females. On carefully examining the plumage, he found that the males could only be known by the superior brightness of colour about the head; which alone, after the first or second year, seems to be the mark of distinction.

THE QUAIL*.

The Quail is an inhabitant of nearly all the countries of the world, and in all is esteemed excellent food. In appearance it is so like the partridge, that it is sometimes

* DESCRIPTION. The bill of this bird is of a dusky colour. The feathers of the head are black, edged with rusty brown. The crown of the head is divided by a whitish yellow line, beginning at the bill, and running along the hind part of the neck to the back. Above

called *Dwarf Partridge;* and, in the manners of the two species, there is a great resemblance. They feed, form their nest, and rear their young, nearly in the same way. They are, however, in many respects very different. Quails migrate to other countries: they are always smaller; and have not a naked space between the eyes, nor the figure of a horse-shoe on their breasts. The eggs too are less than those of the partridge, and very different in colour. Their voices are unlike. Quails seldom live in coveys; except when their wants unite the feeble family to their mother, or some powerful cause urges at once the whole species to assemble, and traverse together the extent of the ocean, holding their course to the same distant lands. They are much less cunning than the partridge; and more easily ensnared, especially when young.

The females lay about ten eggs, in the incubation of which they are occupied three weeks. The eggs are whitish; but marked with ragged rust-coloured spots. Quails have been supposed, but without foundation, to breed twice in the year.

These birds usually sleep during the day, concealed in the tallest grass; lying on their sides, with their legs ex-

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each eye there is another line of the same colour. The chin and throat are of a dirty white. The cheeks are spotted with brown and white. The breast is of a pale yellowish red, spotted with black. The scapular feathers, and those on the back, are marked in their middles with a long, pale, yellow line; and on their sides with ferruginous and black bars. The coverts of the wings are reddish-brown, elegantly barred with paler lines, bounded on each side with black. The exterior side of the first quill-feathers is white; of the others, dusky spotted with red. The tail consists of twelve short feathers, barred with black and very pale brownish red. The legs are of a pale hue. *Pennant.*

SYNONYMS. Tetrao Coturnix. *Linn.*—Le Caille. *Buff.*—*Bew. Birds*, i. *p.* 308.

tended, in the same spot, even for hours together. So very indolent are they, that a dog must absolutely run upon them before they are flushed; and when they are forced upon wing, they seldom fly far.—Quails are easily drawn within reach of a net, by a call imitating their cry, which is not unlike the words *whit*, *whit*, *whit:* this is done with an instrument called a quail-pipe.

They are found in most parts of Great Britain, but no where in any great quantity.—The time of their migration from this country is August or September. They are supposed to winter in Africa; and they return early in the spring. At their arrival in Alexandria, such multitudes are exposed in the markets for sale, that three or four may sometimes be bought for a medina, (a coin less than three farthings in value.) Crews of merchant-vessels have been fed upon them; and complaints have sometimes been laid at the consul's office, by mariners, against their captains, for giving them nothing but Quails to eat.

With wind and weather in their favour, they have been known to perform a flight of fifty leagues across the Black Sea in the course of a night; a wonderful distance for so short-winged a bird.

Such prodigious quantities have appeared on the western coasts of the kingdom of Naples, in the vicinity of Nettuno, that a hundred thousand have, in one day, been caught within the space of three or four miles. Most of these are taken to Rome: where they are in great request, and are sold at extremely high prices.—Clouds of Quails also alight, in spring, along the coasts of Provence: especially in the lands belonging to the Bishop of Frejus, which border on the sea. Here they are sometimes found so exhausted, that for a few of the first days they may be caught with the hand.—In some parts of the south of Russia they abound so greatly, that at the time of their

migration they are caught by thousands, and sent in casks to Moscow and Petersburgh.

In peaceful times we import great quantities of these birds from France, for the table; all of which are males. They are conveyed by stage-coaches, in a large square box, divided into five or six compartments, one above another, just high enough to admit the Quails to stand upright, and each box containing about a hundred birds. Were they allowed a greater height than this, they would soon kill themselves; and, even with this precaution, the feathers on the top of the head are generally beaten off. These boxes have wire on the fore part, and each partition is furnished with a small trough for food. They may be forwarded in this manner, without difficulty, to great distances.

With respect to these birds having an instinctive knowledge of the precise time for emigration, we have a very singular fact in some young Quails, which having been bred in cages from the earliest period of their lives, had never enjoyed, and therefore could not feel, the loss of liberty. For four successive years they were observed to be restless, and to flutter with unusual agitations regularly in September and April; and this uneasiness lasted thirty days at each time. It began constantly an hour before sunset. The birds passed the whole night in these fruitless struggles; and always on the following day appeared dejected and stupid.

Quails are birds of undaunted courage; and their quarrels often terminate in mutual destruction. This irascible disposition induced the ancient Greeks and Romans to fight them with each other, as the moderns do game-cocks. And such favourites were the conquerors, that in one instance Augustus punished a præfect of Egypt with death, for bringing to his table one of these birds which had acquired celebrity for its victories. The

fighting of Quails is even now a fashionable diversion in China, and in some parts of Italy.

OF THE BUSTARDS IN GENERAL.

The Bustards have a somewhat convex bill, with open and oblong nostrils. The legs are long, and naked above the knees. The feet have only three toes, all placed forward.

There are about twelve different species, nearly all of which are confined to the Old Continent.

THE GREAT BUSTARD*.

There is one very essential distinction betwixt the male and the female of this species. The former is furnished with a sac or pouch, situated in the fore-part of the neck, and capable of containing above two† quarts of water, of which the latter is deprived. The entrance to it is immediately under the tongue. This singular reservoir was

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* Description. This is the largest land-fowl produced in our island, the male sometimes weighing twenty-five pounds and upwards. The length is nearly four feet, and the breadth nine. The head and neck are ash-coloured. The back is transversely barred with black, and bright rust colour. The belly is white: and the tail, consisting of twenty feathers, is barred with red and black. The legs are dusky. On each side of the lower mandible of the bill there is a tuft of feathers about nine inches long.

The female is not much more than half the size of the male. The top of her head is of a deep orange, and the rest of the head brown. Her colours are not so bright as those of the male, and she wants the tuft on each side of the head.

Synonyms. Otis tarda. *Linn.*—Outarde. *Buff.*—Bustard. *Willughby.*—*Bew. Birds, p.* 314.—*Penn. Brit. Zool.* i. *tab.* 44.

† Some writers say *seven.*

first discovered by Dr. Douglas, who supposes that the bird fills it with water, to supply its thirst in the midst of those extensive plains where it is accustomed to wander: it likewise makes a further use of it in defending itself against the attacks of birds of prey; on these occasions it throws out the water with such violence, as not unfrequently to baffle the pursuit of its enemy.

This bird makes no nest, but the female lays her eggs in some hole in the ground, in a dry corn-field; these are two in number, as big as those of a goose, and of a pale olive brown, marked with spots of a deeper colour. If, during her absence from the nest, any one handles or even breathes upon the eggs, she immediately abandons them. The young ones follow the dam soon after they are excluded from the egg, but are not capable for some time of flying.

The Bustards are, I believe, confined to the Old Continent, and a few of its adjacent islands; and feed on green corn, the tops of turnips, and various other vegetables, as well as on worms: but they have been known also to eat frogs, mice, and young birds of the smaller kind, which they swallow whole. They are remarkable for their great timidity; carefully avoiding mankind, and being easily driven away in whole herds by the smallest dog.

In England they are now and then met with in flocks of fifty or more: they frequent the open countries of the south and east parts, from Dorsetshire, as far as the wolds in Yorkshire, and are sometimes, though rarely, seen on Salisbury Plain. They are slow in taking wing, but run with great rapidity; and the young ones are sometimes coursed and taken by greyhounds.

OF THE TRUMPETERS*.

This singular tribe, of which only two species have been yet discovered, stands arranged, even in Gmelin's edition of the Systema Naturæ, among the birds of the next following order, the *Waders;* but both in its formation and habits it differs so materially from the whole of that order, that I have not hesitated to follow the example of Dr. Latham, and to place it here, where it seems with greatest propriety to stand.

THE GOLD-BREASTED TRUMPETER †.

The most characteristic and remarkable property of these birds consists in the wonderful noise which they often make, either of their own accord, or when urged by their keepers. To induce them to this, it is sometimes

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* The bill is moderately long, having the upper mandible a little convex. The nostrils are oblong, sunk, and pervious. The tongue is cartilaginous, flat, and fringed at the tip. The legs are naked a little above the knees; and the toes are placed three before and one behind.

† Description. The length of this bird is about twenty-two inches; and its legs are five inches high, and completely covered with small scales, which reach two inches above the knee. Its general plumage is black: and the feathers of the head and neck are very short and downy; those of the forepart of the neck, and upper part of the breast, of a very glossy gilded green, with a reflection of blue in some lights. The feathers between the shoulders are rust-coloured, changing into a pale ash-colour as they pass downwards. They are loose and silky. Those of the scapulars are long, and hang over the tail, which is very short, and consists of twelve blackish feathers. The legs are greenish; and the bill is yellowish green, having the nostrils pervious.

Synonyms. Psophia crepitans. *Linn.*—Caracara. *Buff.*

necessary to entice the bird with a bit of bread to come near; and then, making the same kind of sound, which the keepers can well imitate, the bird will frequently be disposed to repeat it. This equivocal noise, which somewhat resembles the moan of pigeons, is at times preceded by a savage cry, interrupted by a sound approaching that of *sherck*, *sherck*. In this way the bird utters five, six, or seven times, with precipitation, a hollow voice emitted from within its body, nearly as if one pronounced *tou*, *tou*, *tou*, *tou*, *tou*, *tou*, with the mouth shut, resting upon the last *tou*, ... a very long time, and terminating by sinking gradually with the same note. It also much resembles the lengthened, doleful noise which the Dutch bakers make by blowing a glass trumpet, to inform their customers when the bread comes out of the oven. This odd sort of tone is probably owing to the extent of the bird's lungs, and the capacity of their membranaceous cells: and it may probably be communicated through the muscles and teguments of its body; for there appears no proof that it proceeds from its mouth, to the external air which conveys the impulse to the ear.

This bird, when tamed, distinguishes its master and benefactor with marks of affection.—"Having (says Vosmaër) reared one myself, I had an opportunity of experiencing this. When I opened its cage in the morning, the kind animal hopped round me, expanding his wings, and *trumpeting*, as if to wish me good-morning. He showed equal attention when I went out and returned. No sooner did he perceive me at a distance, than he ran to meet me; and even when I happened to be in a boat, and set my foot on shore, he welcomed me with the same compliments, which he reserved for me alone, and never bestowed upon others."

The Trumpeter is easily tamed, and always becomes attached to its benefactor. When bred up in the house,

it loads its master with caresses, and follows his motions; and, if it conceives a dislike to persons on account of their forbidding figure, or of injuries received, it will pursue them sometimes to a considerable distance, biting their legs, and testifying every mark of displeasure. It obeys the voice of its master, and even answers the call of others to whom it bears no ill-will. It is fond of caresses, and offers its head and neck to be stroked; and if once accustomed to these familiarities, it becomes troublesome, and will not be satisfied without continual fondling. It makes its appearance as often as its master sits down to table, and begins with driving out the dogs and cats from the room; for it is so obstinate and bold, that it never yields, but, oftentimes after a tough battle, will put a middle-sized dog to flight. It avoids the bites of its antagonist by rising in the air; and retaliates with violent blows of its bill and claws, aimed chiefly at the eyes. After it gains the superiority, it pursues the victory with the utmost rancour, and, if not taken off, will destroy the fugitive. By its intercourse with man, its instincts become moulded like those of dogs; and we are assured that it can be trained to attend a flock of sheep. It even shows a degree of jealousy of its human rivals; for, when at table, it bites fiercely the naked legs of the negroes and other domestics who approach its master.

Almost all these birds have also a habit of following people through the streets, and out of town; even those whom they have never seen before. It is difficult to get rid of them; if a person enters a house, they will wait his return, and again join him, though after an interval of three hours. "I have sometimes (says M. de la Borde) betaken myself to my heels: but they ran faster, and always got before me; and when I stopped they stopped also. I know one that invariably follows all the strangers who enter its master's house, accompanies them into the

garden, takes as many turns there as they do, and attends them back again."

In a state of nature, this bird inhabits the arid mountains and upland forests of South America; never visiting the cleared grounds, nor the settlements. It associates in numerous flocks. It walks and runs, rather than flies; since it never rises more than a few feet from the ground, and then only to reach some short distance, or to gain some low branch. It feeds on wild fruits; and, when surprised in its haunts, makes its escape by the swiftness of its feet, at the same time emitting a shrill cry not unlike that of a turkey.

OF THE OSTRICHES IN GENERAL.

In the Ostriches, the bill is straight and depressed. The wings are small in proportion to the size of the body, and altogether useless for flight. The legs are naked above the knee: the number of the toes, in one species, is two, and in the remaining species three; and these are placed forwards.

THE BLACK OR GREAT OSTRICH *.

The sandy and burning deserts of Africa and Asia, are the only native residences of the Black Ostriches. Here

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* Description. This Ostrich stands so very high, as to measure from seven to nine feet from the top of the head to the ground. From the back, however, it is seldom more than three or four feet, the rest of its height being made up by its extremely long neck. The head is small; and, as well as the greater part of the neck, is covered only with a few scattered hairs. The feathers of the body are black and loose; those of the wings and tail are of a snowy

they are seen in flocks, so large, as sometimes to have been mistaken for distant cavalry.

There are many circumstances in the economy of this animal, which show it to be peculiarly different from the rest of the feathered race. It seems to form one of the links of union in the great chain of nature, connecting the winged with the four-footed tribes. Its strong-jointed legs, and (if I may venture so to call them) cloven hoofs, are well adapted both for speed and defence. The wings and all its feathers are insufficient to raise it from the ground: its camel-shaped neck is covered with hair: its voice is a kind of hollow, mournful lowing: and it grazes on the plain with the qua-cha and the zebra.

The Ostriches frequently do great damage to the farmers in the interior of Southern Africa, by coming in flocks into their fields, and destroying the ears of wheat so effectually, that in a large tract of land it often happens that nothing but the bare straw is left behind. The body of the bird is not higher than the corn; and when it devours the ears, it bends down its long neck, so that at a little distance it cannot be seen: but on the least noise it rears its head, and generally contrives to escape before the farmer gets within gun-shot of it.

When the Ostrich runs, it has a proud and haughty look; and, even when in extreme distress, never appears in great haste, especially if the wind is with it. Its wings are frequently of material use in aiding its escape; for, when the wind blows in the direction that it is pursuing, it always flaps them. In this case the swiftest horse can-

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white, waved and long, having here and there a tip of black. The wings are furnished with spurs. The thighs and flanks are naked; and the feet are strong, and of a gray-brown colour.

SYNONYMS. Struthio Camelus. *Linn.*—Autruche. *Buff.*—Ostrich. *Willughby.*

not overtake it: but if the weather is hot, and there is no wind, or if it has by any accident lost a wing, the difficulty of out-running it is not so great.

The Ostrich is one of the few polygamous birds found in a state of nature; one male being generally seen with two or three, and frequently with five, females. It has been commonly believed, that the female Ostrich, after depositing her eggs in the sand, and there covering them up, trusts them to be hatched by the heat of the climate, and leaves the young ones to shift for themselves. Even the author of the book of Job alludes to this popular notion respecting the Ostrich, "which leaveth her eggs in the earth, and warmeth them in the dust; and forgetteth that the foot may crush them, or that the wild beast may break them. She is hardened against her young ones, as though they were not hers: her labour is in vain without fear; because God has deprived her of wisdom, neither hath he imparted to her understanding."—Recent travellers have, however, assured us, that no bird whatever has a stronger affection for her offspring than this, and and that none watches her eggs with greater assiduity. It happens, probably, in those hot climates, that there is less necessity for the continual incubation of the female; and she frequently leaves her eggs, which are in no fear of being chilled by the weather. But though she sometimes forsakes them by day, she always carefully broods over them by night; and Kolben, who saw great numbers of Ostriches at the Cape of Good Hope, affirms, that they sit on their eggs like other birds, and that the males and females take this office by turns, as he had frequent opportunities of observing. Nor is it more true that they forsake their young ones as soon as excluded from the shell. On the contrary, these are not able to walk for several days after they are hatched. During this time the parent

birds are very assiduous in supplying them with grass and water, and careful to defend them from harm; and will even themselves encounter every danger in their defence. The females which are united to one male, deposit all their eggs in the same place, to the number of ten or twelve each: these they hatch all together, the male also taking his turn of sitting on them. Between sixty and seventy eggs have sometimes been found in one nest. The time of incubation is six weeks. From the want of knowing that the Ostrich is polygamous, Linnæus has suffered an error respecting this bird to slip into his Systema Naturæ, where it is asserted, that one female sometimes lays nearly fifty eggs.

M. Le Vaillant informs us, that he started an Ostrich from its nest in Africa, where he found eleven eggs quite warm, and four others at a short distance. Those in the nest had young ones in them; but his attendants eagerly caught up the detached ones, assuring him that they were perfectly good to eat. They informed him, that near the nest there are always placed a certain number of eggs, which the birds do not sit upon, and which are designed for the first nourishment of their future young. "Experience (says M. Le Vaillant) has convinced me of the truth of this observation; for I never afterwards met with an Ostrich's nest, without finding eggs disposed in this manner at a small distance from it *."

Some time after this, M. Le Vaillant found a female Ostrich on a nest containing thirty-two eggs; and twelve eggs were arranged at a little distance, each in a separate cavity formed for it. He remained near the place some time; and saw three other females come and alternately

* The same observation was made by Dr. Shaw, who travelled through Barbary about the beginning of the last century.—*Shaw's Travels*, p. 69.

seat themselves in the nest; each sitting for about a quarter of an hour, and then giving place to another, who, while waiting, sat close by the side of her whom she was to succeed.

That the Ostriches have great affection for their offspring, may be inferred from the assertion of Professor Thunberg: that he once rode past the place where a hen Ostrich was sitting on her nest; when the bird sprang up and pursued him, evidently with a view to prevent his noticing her eggs or young. Every time he turned his horse towards her, she retreated ten or twelve paces; but as soon as he rode on again, she pursued him, till he had got to some considerable distance from the place where he started her.

The nest appears to be merely a hole in the ground, formed by the birds' trampling the earth for some time with their feet.

If the eggs are touched by any person in the absence of the parents, they immediately discover it, by the scent, at their return; and, not only desist from laying any more in the same place, but trample to pieces with their feet all those that have been left. The natives of Africa, therefore, are very careful, in taking part of the eggs away, not to touch any of them with their hands, but always push them out of the nest with a long stick.

In the interior of the eggs there are frequently discovered a number of small oval-shaped pebbles, about the size of a marrow-fat pea; of a pale yellow colour, and exceedingly hard. Mr. Barrow states, he saw in one egg nine, and in another twelve of them *.

This gentleman, who has favoured the world with an

* Professer Thunberg was informed, that in the eggs a kind of stone was sometimes found, which was set and used for buttons.—*Travels*, i. 178.

excellent description of the southern country of Africa, says, that the eggs of the Ostrich are there considered a great delicacy. They are prepared in various ways; but he esteems as best that adopted by the Hottentots. This is simply to bury them in hot ashes; and, through a hole made in the upper end, to stir the contents incessantly round till they acquire the consistence of an omlet. Prepared in this manner, he says, he often found them an excellent repast in the course of his long journeys over the wilds of Africa. These eggs are easily preserved for a great length of time, even at sea; and without any of that trouble of constantly turning them, which is necessary with hen's eggs. This is owing entirely to the thickness and strength of their shells. At the Cape of Good Hope they are usually sold for about sixpence sterling each. From their large size, one of them is sufficient to serve two or three persons at a meal.

Thunberg saw necklaces and ornaments for the waist, that the Hottentots had made of the shells of the eggs, by grinding bits of them into the form of small rings.

The Ostrich itself is chiefly valuable for its plumage; and the Arabians have reduced the chase of it to a kind of science. They hunt it, we are told, on horseback: and begin their pursuit by a gentle gallop; for, should they, at the outset, use the least rashness, the matchless speed of the game would immediately carry it out of their sight, and in a very short time beyond their reach. But when they proceed gradually, it makes no particular effort to escape. It does not go in a direct line, but runs first to one side and then to the other; this its pursuers take advantage of, and by rushing directly onward, save much ground. In a few days, at most, the strength of the animal is exhausted; and it then either turns on the hunters and fights with the fury of despair, or hides its head, and tamely receives its fate.

Frequently the natives conceal themselves in the skin of one of these birds, and by that means are able to approach near enough to surprise them.

Some persons breed up Ostriches in flocks: for they are tamed with very little trouble; and in their domestic state few animals may be rendered more useful. Besides the valuable feathers which they cast; the eggs which they lay; their skins, which are used by the Arabians as a substitute for leather; and their flesh, which many esteem as excellent food; they are sometimes made to serve the purpose of horses.

In a tame state, it is very pleasant to observe with what dexterity they play and frisk about. In the heat of the day, particularly, they will strut along the sunny side of a house with great majesty, perpetually fanning themselves with their expanded wings, and seeming at every turn to admire, and be enamoured of, their own shadows. During most parts of the day, in hot climates, their wings are in a kind of vibrating or quivering motion, as if designed principally to assuage the heat.

They are tractable and familiar towards persons who are acquainted with them; but are often fierce towards strangers, whom they sometimes will attempt to push down, by running furiously upon them; and, on succeeding in this effort, they not only peck at their fallen foe with their bills, but strike at him with their feet with the utmost violence. The inner claw being exceedingly strong, Dr. Shaw says, he once saw an unfortunate person who had his abdomen entirely ripped up by one of these strokes. While thus engaged, the Ostriches sometimes make a fierce hissing noise, and have their throats inflated and mouths open. At other times they have a kind of cackling voice, like some species of poultry: this they use when they have overcome or routed an adversary. During the night they often utter a doleful or hideous cry,

somewhat resembling the distant roaring of a lion, or the hoarse tone of a bear or an ox, as if they were in great agony.

They will swallow, with the utmost voracity, rags, leather, wood, iron, or stone, indiscriminately. "I saw one at Oran, (says Dr. Shaw,) that swallowed, without any seeming uneasiness or inconvenience, several leaden bullets, as they were thrown upon the floor, *scorching hot from the mould!*"

During the time of Mr. Adanson's residence at Podor, a French factory on the southern bank of the river Niger, he says, that two Ostriches, which had been about two years in the factory, afforded him a sight of a very extraordinary nature. These gigantic birds, though young, were of nearly the full size. "They were (he continues) so tame, that two little blacks mounted both together on the back of the largest. No sooner did he feel their weight, than he began to run as fast as possible, and carried them several times round the village; as it was impossible to stop him otherwise than by obstructing the passage. This sight pleased me so much, that I wished it to be repeated; and, to try their strength, directed a full-grown negro to mount the smallest, and two others the largest. This burthen did not seem at all disproportioned to their strength. At first they went at a tolerably sharp trot; but when they became heated a little, they expanded their wings, as though to catch the wind, and moved with such fleetness, that they scarcely seemed to touch the ground. Most people have, one time or other, seen a partridge run; and consequently must know that there is no man whatever able to keep up with it: and it is easy to imagine, that if this bird had a longer step, its speed would be considerably augmented. The Ostrich moves like the partridge, with this advantage; and I am satisfied that those I am speaking

of would have distanced the fleetest race-horses that were ever bred in England. It is true, they would not hold out so long as a horse; but they would undoubtedly be able to go over the space in less time. I have frequently beheld this sight; which is capable of giving one an idea of the prodigious strength of an Ostrich, and of showing what use it might be of, had we but the method of breaking and managing it as we do a horse."

THE CASSOWARY *.

Like the ostrich, this bird is not very delicate in its taste. It will swallow almost any thing not too large to pass down its throat, that is presented to it. Some writers have asserted, that the Cassowary will occasionally swallow even

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* DESCRIPTION. The body of the Cassowary is extremely heavy, and its wings are so short, that it has no power whatever to raise itself from the ground in flight. The quills of which the wings are composed, are five in number; they are strong, distant from each other, and without barbs. They are, in short, so many spines; and are given to the animal as weapons of defence against its enemies. The beak is about five inches long, somewhat curved, and of very hard substance. A bony protuberance, covered with horn, and of a blackish brown colour, forms on the top of the head, a sort of helmet. The skin of the head and neck is entirely naked, and is of a fine blue colour above, and red below. On each side of the front of the neck, hangs a long light blue caruncle or wattle. The body is covered with black feathers, which, at a little distance, have the appearance of hair. Those on the hinder part of the back are of such length, as entirely to conceal the tail. The thighs are each about eighteen inches long, and are covered with feathers almost to the knees. The legs are remarkably stout; the toes of each foot are only three in number, and the nail of each internal toe is about twice the length of any of the others.

SYNONYMS. Struthio cassuarius. *Linnæus*.—Emeu, or Cassowary, in England.

burning coals. It is particularly fond of fruit, and of the eggs of poultry; but it is not able to eat any kind of grain, as the tongue is so formed as to have no power of guiding this down the throat.

The Cassowary now kept in the Menagerie of the museum at Paris, devours every day betwixt three and four pounds weight of bread, six or seven apples, and a bunch of carrots. In summer, it drinks about four pints of water in the day; and in winter somewhat more. It swallows all its food without bruising it, and sometimes voids the apples and carrots entire.

This is a very vigorous and powerful animal. Its beak being in proportion much stronger than that of the ostrich, it has the means of defending itself with great advantage, and of easily pulling down and breaking in pieces almost any hard substance. It strikes, in a very dangerous manner with its feet, either behind or before, at any object which offends it.

It is believed that the Cassowary was unknown in Europe until about the year 1597, when the Dutchmen, on their return from their first voyage to India, brought one from Java. This bird was given to them by the reigning prince of that island. During a considerable while it was exhibited at Amsterdam, for money: it was then sold to the Count de Solms, who gave it to the Elector of Cologne; and by him it was presented to the Emperor of Germany. In the course of the ensuing six years, the Dutch merchants shipped two others from the same place, but both of these died during the voyage. In the year 1671, a Cassowary was sent by the governor of Madagascar, to the king of France, which was kept alive for four years, in the royal Menagerie at Versailles. Since this period, Cassowaries have been frequently brought into Europe, and as they bear the climate of Europe much better than most animals

imported from the torrid regions, there are few countries in this part of the world entirely without them.

The Cassowary now deposited in the Menagerie of the museum at Paris, is sometimes ill tempered and mischievous. It is much irritated when any person approaches it of a dirty or ragged appearance, or dressed in red clothes; and it frequently attempts to strike at them by kicking forward with one of its feet. It has been known even to leap out of its enclosure, and to tear the legs of a man with its claws.

There is at this time a Cassowary in the Menagerie at Exeter 'Change, which cannot by any means be considered as an ill-tempered animal. This bird is every day driven many times out of its cage by the keeper, in order to be exhibited to the visitors. It runs without any apparent concern, for some time, about the room, and allows even strangers to handle it without attempting to resist the freedom; and after a while, it marches quietly into its cage again.

In a wild state these birds lay three or four eggs at a time, and these are generally of a greenish or greyish colour, beautifully spotted with grass green, and marked towards their smaller extremity with white. The female deposits them in the sand, and after having covered them over, leaves them to be hatched by the heat of the sun and the atmosphere. In some countries, however, and under some circumstances, they sit upon them like other birds.

The late proprietor of the Menagerie at Exeter 'Change had in his possession a Cassowary, which laid four eggs, one at Oxford, one at Warwick, one at Hammersmith, and one at Abingdon, when it was in a caravan for the purpose of exhibition. These eggs were somewhat larger than those of the swan, and of a blue colour, with dark specks.

This Cassowary died, during the time the caravan was at Durham, in the year 1779, and its stuffed skin was after-

wards deposited in the great room of the Menagerie at Exeter 'Change.

Cassowaries are found only in the eastern parts of the South of Asia; that is, in the peninsula of India, beyond the Ganges, and in the islands of the Indian Archipelago. But they are not very numerous in any of these places. The deep forests of the island of Ceram, along the southern coast, from Ethiopia almost to Kelemori, contain, however, great numbers of them.

THE TANJORE MAHARAJA SERFOGI'S ... MAHAL.

Waders*.

OF THE HERON TRIBE IN GENERAL†.

The different kinds of Herons are very numerous, amounting in the whole to nearly a hundred. They are found in various parts of the world, but chiefly in the temperate and hot climates. Several of them are migratory. They have long feet and necks, and live almost wholly on amphibious animals and fishes.

THE COMMON CRANE ‡.

This species is met with in numerous flocks in all the northern parts of Europe. We are told that they make their nests in marshes, and lay two bluish eggs. They feed on reptiles of all kinds, and on some kinds of vegetables: while the corn is green, they are said to make such havock as to ruin the farmers, wherever the flocks alight.

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* In the Waders (or *Grallæ* of Linnæus) the bill is somewhat cylindrical. The thighs are feathered only half-way to the knees; and the legs are longish, and formed for walking.

† The characters of the tribe are: a long, strong, and sharp-pointed bill; linear nostrils, and pointed tongue: toes connected by a membrane as far as the first joint; and the middle claw, in some of the species, pectinated.

‡ DESCRIPTION. This is a large bird, measuring upwards of five feet in length. The bill is more than four inches long. The plumage is, in general, ash-coloured: but the forehead is black; and the sides of the head, behind the eyes, and the hind part of the neck, are white; on the upper part of the neck there is a bare ash-coloured

They are migratory; returning northward to breed in the spring (where they generally make choice of the places which they occupied during the preceding season,) and in the winter inhabiting the warmer regions of Egypt and India.

The Cranes fly very high: and arrange themselves in the form of a triangle, the better to cleave the air. When the wind freshens, and threatens to break their ranks, they collect their force into a circle; and they adopt the same disposition when the eagle attacks them. Their migratory voyages are chiefly performed in the night; but their loud screams betray their course. During these nocturnal expeditions the leader frequently calls, in order to rally his forces, and point out the track; and the cry is repeated by the flock, each answering, to give notice that it follows and keeps its rank.

> Part loosely wing the region: part more wise,
> In common, rang'd in figure, wedge their way,
> Intelligent of seasons; and set forth
> Their airy caravan, high over seas
> Flying, and over lands with mutual wing
> Easing their flight——So steers the prudent Crane
> Her annual voyage, borne on winds; the air
> Floats as they pass, fann'd with unnumber'd plumes.

The flight of the Crane is always supported uniformly, though it is marked by different inflections: and these va-

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space of two inches; and, above this, the skin is naked and red, with a few scattered hairs. Some parts about the wings are blackish. From the pinion of each wing springs an elegant tuft of loose feathers, curled at the ends; which can be erected at will, but which in a quiescent state hangs over and covers the tail. The legs are black.

SYNONYMS. Ardea Grus. *Linn.*—Grue. *Buff.*—*Penn. Brit. Zool. vol.* ii. *App. tab.* 6.—*Bew. Birds,* ii. *p.* 29..

riations have even been observed to indicate a change of weather. The cries of these birds, during the day, forebode rain; and their noisy, tumultuous screams announce a storm. If, in a morning or evening, they rise upwards, and fly peacefully in a body, it is a sign of fine weather; but if they keep low, or alight on the ground, this menaces a tempest.

Like all other large birds, (except the rapacious tribe,) the Crane has much difficulty in commencing its flight. It runs a few steps; opens its wings; mounts a little way; and then, having a clear space, it displays its vigorous and rapid pinions.

When the Cranes are assembled on the ground, they are said to set guards during the night; and the circumspection of these birds has been consecrated in the ancient hieroglyphics, as the symbol of vigilance.

According to Kolben, they are often observed in large flocks on the marshes about the Cape of Good Hope. He says, he never saw a flock of them on the ground, that had not some birds placed, apparently as sentinels, to keep a look-out, while the others were feeding. These sentinels stand on one leg; and, at intervals, stretch out their necks, as if to observe that all is safe. On notice being given of danger, the whole flock are in an instant on the wing. Kolben goes so far as to assert, that in the night-time each of the watching Cranes, which rest on their left legs, "hold in the right claw a stone of considerable weight; in order that, if overcome by sleep, the falling of the stone may awake them!"

Cranes are seen in France in the spring and autumn; but are, for the most part, merely passengers. We are told that they formerly visited the marshes of Lincolnshire and Cambridgeshire in vast flocks: but none have of late been met with there.—The flesh is black, tough, and bad.

THE WHITE STORK *.

The White Storks are semi-domestic birds, haunting towns and cities; and, in many places, stalking unconcernedly about the streets, in search of offal and other food. They remove the noxious filth, and clear the fields of serpents and reptiles. On this account they are protected in Holland, and held in high veneration by the Mahomedans; and so greatly respected were they in times of old by the Thessalians, that to kill one of these birds was a crime expiable only by death.

Bellonius informs us, that "Storks visit Egypt in such abundance, that the fields and meadows are white with them. Yet the Egyptians are not displeased with this sight; as frogs are generated in such numbers there, that, did not the Storks devour them, they would over-run every thing. Besides, they also catch and eat serpents. Between Belba and Gaza, the fields of Palestine are often rendered desert on account of the abundance of mice and rats; and, were they not destroyed, the inhabitants could have no harvest."

The disposition of the Stork is mild and placid. It is an animal easily tamed; and may be trained to reside in gardens, which it will clear of insects and reptiles. It has a grave air, and a mournful visage: yet, when roused by example, it shows a certain degree of gaiety; for it joins in the frolics

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* Description. The length of the White Stork is about three feet. The bill is nearly eight inches long, and of a fine red colour. The plumage is wholly white; except the orbits of the eyes, which are bare and blackish: some of the feathers on the side of the back and on the wings are black. The skin, the legs, and the bare part of the thighs, are red.

Synonyms. Ardea Ciconia. *Linn.*—Cicogne blanche. *Buff.*—*Bew. Birds*, ii. p. 32.

of children, hopping about and playing with them: "I saw in a garden (says Dr. Hermann) where the children were playing at hide-and-seek, a tame Stork join the party; run its turn when touched; and distinguish the child whose turn it was to pursue the rest, so well, as, along with the others, to be on its guard."

To the Stork the antients ascribed many of the moral virtues; as temperance, conjugal fidelity, and filial and paternal piety. The manners of this bird are such as were likely to attract peculiar attention from them. It bestows much time and care on the education of its offspring, and does not leave them till they have strength sufficient for defence and support. When they begin to flutter out of the nest, the mother bears them on her wings; she protects them from danger, and will sometimes perish rather than forsake them. A celebrated story is current in Holland: that when the city of Delft was on fire, a female Stork in vain attempted several times to carry off her young ones; and, finding she was unable to effect their escape, suffered herself to be burned with them.

The following anecdote affords a singular instance of sagacity in this bird:—A wild Stork was brought by a farmer, in the neighbourhood of Hamburgh, into his poultry-yard, to be the companion of a tame one he had long kept there; but the tame Stork, disliking a rival, fell upon the poor stranger, and beat him so unmercifully that he was compelled to take wing, and with some difficulty escaped. About four months afterwards, however, he returned to the poultry-yard, recovered of his wounds, and attended by three other Storks, who no sooner alighted than they all together fell upon the tame Stork and killed him.

Storks are birds of passage, and observe great exactness in the time of their autumnal departure from Europe to more favourite climates. They pass a second summer in

Egypt and the marshes of Barbary. In the former country they pair; and lay again, and educate a second brood. Before each of their migrations, they rendezvous in amazing numbers. They are for a while much in motion among themselves; and after making several short excursions, as if to try their wings, all of a sudden take flight with great silence, and with such speed as in a moment to be out of sight.

Where the Rhine loses its majestic force,
In Belgian plains,—won from the raging deep
By diligence amazing, and the strong
Unconquerable hand of Liberty,—
The Stork-assembly meets; for many a day
Consulting deep and various, ere they take
Their arduous voyage through the liquid sky.
And now their route design'd, their leaders chose,
Their tribes adjusted, clean'd their vigorous wings;
And many a circle, many a short essay,
Wheel'd round and round; in congregation full
The figur'd flight ascends, and, riding high
The aërial billows, mixes with the clouds.

These birds are seldom seen further north than Sweden; and though they have scarcely ever been met with in England, they are so common in Holland as to build every where on the tops of the houses, where the good-natured inhabitants provide boxes for them to make their nests in; and are careful that the birds suffer no injury. Storks are also common at Aleppo; and in plenty at Seville, in Spain. At Bagdad, hundreds of their nests are said to be seen about the houses, walls, and trees; and at Persepolis, or Chilmanar, in Persia, the remains of the pillars serve them for nesting places, "every pillar having a nest upon it."

During their migrations they are seen in vast flocks. Dr. Shaw saw three flights of them leaving Egypt, and passing

over Mount Carmel, each half a mile in breadth; and he says they were three hours in passing over.

THE COMMON HERON*.

Of all the birds that are known, this is one of the most formidable enemies to the scaly tribe. There is, in fresh waters, scarcely a fish, however large, that the Heron will not strike at and wound, though unable to carry it off: but the smaller fry are his chief subsistence; these, pursued by their larger fellows of the deep, are compelled to take refuge in shallow waters, where they find the Heron a still more formidable enemy. His method is to wade as far as he can go into the water, and there patiently await the approach of his prey; into which, when it comes within his sight, he darts his bill with inevitable aim. Willughby says he has seen a Heron that had no fewer than seventeen carp in his belly at once; these he would digest in six or seven hours, and then go to fishing again. "I have seen a carp (he continues) taken out of a Heron's belly, nine

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* Description. The Common Heron is about three feet three inches in length. The bill is six inches long, and of a dusky colour. The feathers of the head are long, and form an elegant crest. The neck is white; the fore part marked with a double row of black spots. The general colour of the plumage is a blue gray; with the bastard wing, and greater quills, black. The middle of the back is almost bare, and covered by the loose feathers of the scapulars; the feathers of the neck also hang loose over the breast. On each side, under the wing, they are black. The legs are of a dirty green, and the inner edge of the middle claw is serrated.

The female has no crest, and the feathers on the breast are short.

These birds are very common in England.

Synonyms. Ardea cinerea. *Linn.*—Héron. *Buff.*—Heronshaw. *Montagu.*—*Penn. Brit. Zool.* ii. *tab.* 61.—*Bew. Birds*, ii. *p.* 37.

inches and a half long. Some gentlemen who kept tame Herons, in order to try what average quantity one of them would devour, have put several smaller roach and dace into a tub; and they have found him eat fifty in a day, one day with another. In this manner a single Heron will destroy fifteen hundred store carp in a single half year."

The Heron, though he usually takes his prey by wading into the water, frequently also catches it while on wing; but this is only in shallow waters, where he is able to dart with more certainty than in the deeps; for in this case, though the fish does, at the first sight of its enemy, descend, yet the Heron, with his long bill and legs, instantly pins it to the bottom, and thus seizes it securely. In this manner, after having been seen with its long neck for above a minute under water, he will rise upon the wing with a trout or an eel struggling in his bill. The greedy bird, however, flies to the shore, scarcely gives it time to expire, but swallows it whole, and then returns again to his fishing.

Heron-hawking was formerly a favourite diversion in this kingdom; and a penalty of twenty shillings was incurred by any person taking the eggs of this bird. Its flesh was also in former times much esteemed, being valued at an equal rate with that of the peacock.

In their breeding season the Herons unite together in large societies, and build in the highest trees. Sometimes as many as eighty have been seen in one tree. The nest is made of sticks, and lined with a few rushes and wool, or feathers. The eggs are four or five in number, and of a pale-green colour.

If taken young, these birds may be tamed; but when the old birds are captured, they soon pine away, refusing every kind of nourishment.

The different parts of the body of the Heron are admirably adapted to its mode of life. It has long legs for

the purpose of wading; a long neck, answerable to these, to reach its prey in the water; and a wide throat to swallow it. Its toes are long, and armed with strong, hooked talons; one of which is serrated on the edge, the better to retain the fish. The bill is long and sharp, having serratures towards the point, which stand backward; these, after the prey is struck, act like the barbs of a fish-hook, in detaining it till the bird has time to seize it with the claws. Its broad, large, concave, and apparently heavy wings for so small a body, are of great use in enabling it to carry its load to the nest, which is sometimes at a great distance. Dr. Derham tells us, that he has seen lying scattered under the trees of a large heronry, fishes several inches in length, which must have been conveyed by the birds from the distance of several miles: and D'Acre Barret, Esq. the owner of this heronry, saw a large eel that had been conveyed thither by one of them, notwithstanding the inconvenience that it must have experienced from the fish writhing and twisting about.

The body of the Heron is very small, and always lean; and the skin is said to be scarcely thicker than what is called goldbeater's skin. It is probable that this bird is capable of long abstinence; as its usual food, which is fish and reptiles, cannot be had at all times.

THE GIGANTIC CRANE*.

The Gigantic Crane is an inhabitant of Bengal and Calcutta, and is sometimes found on the coast of Guinea. It arrives in the interior parts of Bengal before the period

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* DESCRIPTION. This is a large species, measuring, from tip to tip of the wings, nearly fifteen feet. The bill is of vast size, nearly triangular, and sixteen inches round at the base. The head and neck are naked, except a few straggling curled hairs. The feathers

of the rains, and retires as soon as the dry season commences. Its aspect is filthy and disgusting; yet it is one of the most useful birds of these countries, in clearing them of snakes, noxious reptiles, and insects. It seems to finish the work begun by the jackal and vulture; they clearing away the flesh of animals, and these birds removing the bones by swallowing them entire.—They sometimes feed on fish; and one of them will generally devour as much as would serve four men. On opening the body of a Gigantic Crane, a land tortoise, ten inches long, and a large black male cat, were found entire within it; the former in the craw, and the latter in its stomach.—Being altogether undaunted at the sight of mankind, they are soon rendered familiar; and when fish or other food are thrown to them, they catch them very nimbly, and immediately swallow them whole.

The Indians believe these Cranes invulnerable, and that they are animated by the souls of the Bramins. They are held in the highest veneration both by the Indians and Africans. Mr. Ives, in attempting to kill some of them with his gun, missed his shot several times; which the bystanders observed with the greatest satisfaction, telling him triumphantly that he might shoot at them as long as he pleased, but he would never be able to kill them.

There seems no doubt that this is the species mentioned by Mr. Smeathman, as being seen by him in Africa. He

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of the back and wings are of a bluish ash-colour, and very stout: those of the breast are long. The craw hangs down the fore-part of the neck like a pouch. The belly is covered with a dirty-white down; and the upper part of the back and shoulders is surrounded with the same. The legs and half the thighs are naked; and the naked parts are full three feet in length.

SYNONYMS. Ardea dubia. *Linn.*—Argil, or Hargal. *Ives.*—Boorong, Cambing, Booring-volar. *Marsden.*—Argali, Pokkoe. *Bosman.*—Gigantic Crane. *Latham.*—*Latham's Synopsis, vol.* iii.

describes them as full seven feet high, and appearing at a distance not unlike a *grey-headed man.* On the middle of the neck before, there was a long conic membrane, like a bladder, covered sparingly with short down, and rising or falling as the animals moved their beaks, but always appearing inflated.

These birds are found in companies; and when seen at a distance, near the mouths of rivers, coming towards an observer, (which they do with their wings extended,) it is said that they may easily be mistaken for *canoes* on the surface of a smooth sea; and when on the sand-banks, for *men* and *women* picking up shell-fish on the beach.

A young bird of this kind, about five feet in height, was brought up tame, and presented to the Chief of the Bananas, where Mr. Smeathman lived; and soon became perfectly familiar. It regularly attended the hall at dinner-time; placing itself behind its master's chair, frequently before any of the guests entered. The servants were obliged to watch it carefully, and to defend the provisions by beating it off with sticks; yet, notwithstanding every precaution, it would frequently snatch off something from the table. It one day purloined a whole boiled fowl, which it swallowed in an instant.

It used to fly about the island, and roost very high among the silk-cotton trees: from this station, at the distance of two or three miles, it could see when the dinner was carried across the court; when, darting down, it would arrive early enough to enter with some of those who carried in the dishes.

When sitting, it was observed always to rest itself on the whole length of the hind part of the leg. It sometimes stood in the room for half an hour after dinner; turning its head alternately, as if listening to the conversation.

Its courage was not equal to its voracity: for a child of eight or ten years old was able to put it to flight; though

it would seem at first to stand on the defensive, by threatening with its enormous bill widely extended, and crying out with a loud hoarse voice.

It preyed on small quadrupeds, birds, and reptiles; and, though it would destroy poultry, it never dared openly to attack a hen with her young ones. It had been known to swallow a cat whole; and a bone of a shin-of-beef being broken, served it but for two morsels.

THE BITTERN *.

This is a very retired bird; dwelling among the reeds and rushes of extensive marshes, where it leads a solitary life, hid equally from the hunter whom it dreads, and the prey that it watches.—It continues for whole days about the same spot, and seems to look for safety only in privacy and inaction.

In the autumn it changes its abode; always commencing its journey or change of place at sunset. Its precautions for concealment and security seem directed with great care and circumspection. It usually sits in the reeds with its head erect; by which means, from the great length of

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* DESCRIPTION. The Bittern is not so large as the common heron. Its bill is also weaker, and not more than four inches long. The rictus or gape is so wide, that the eyes seem placed in the bill. The crown of the head is black; the feathers on the hind-part forming a sort of pendent crest. The plumage is of a pale dull yellow, variously marked with black. Some parts about the wings are of a bright rust-colour, barred with black. The tail is very short; and the feathers on the breast are long and loose. The legs are of a pale green; the claws long and slender; and the inside of the middle one serrated, for the better holding of the prey.

SYNONYMS. Ardea stellaris. *Linn.*—Butor. *Buff.*—Bittour, Bittern, Miredrum. *Willughby.*—Bumpy-coss, Butter-bump. *Montagu.*—Myredromble, *Turner.*—*Bew. Birds*, ii. p. 47.

the neck, it sees over their tops, without being itself perceived by the sportsman.

Its principal food during the summer consists of fish and frogs; but in the autumn it resorts to the woods in pursuit of mice, which it seizes with great dexterity, and always swallows whole. About this season it usually becomes very fat.

In its general disposition it is not so stupid as the heron, but it is greatly more ferocious. When caught, it exhibits much rancour, and strikes chiefly at the eyes of its antagonist. Few birds make so cool a defence: it is never itself the aggressor; but, if once attacked, it fights with the greatest intrepidity. If darted on by a bird of prey, it does not attempt to escape; but, with its sharp beak erected, receives the shock on the point, and thus compels its enemy to retreat, sometimes with a fatal wound. Old buzzards never attempt to attack the Bittern; and the common falcons always endeavour to rush upon it behind, while it is upon the wing.

When wounded by the sportsman, it often makes a severe resistance. It does not retire; but waits his onset, and gives such vigorous pushes with his bill, as to wound the leg even through the boot. Sometimes it turns on its back, like the rapacious birds, and fights both with its bill and claws. When surprised by a dog, it is said always to throw itself into this posture. Mr. Markwick once shot a Bittern in frosty weather: it fell on the ice, which was just strong enough to support the dogs, and they immediately rushed forward to attack it; but being only wounded, it defended itself so vigorously, that the dogs were compelled to leave it, till it was fired at a second time and killed.

During the months of February and March, the males make a kind of deep lowing noise in the mornings and evenings. This is supposed to be the call to the females; and to be produced by a loose membrane, situated at the

divarication of the trachæa, capable of great extension, which can be filled with air, and exploded at pleasure. The noise was formerly believed to be made while the bird plunged its bill into the mud; hence Thomson:

> ——so that scarce
> The Bittern knows his time, with bill ingulph'd
> To shake the sounding marsh.

The nests are formed in April, among rushes; and almost close to the water, though out of its reach. The female lays four or five greenish-brown eggs, and sits on them for about twenty-five days. The young ones, when hatched, are naked and ugly, appearing almost all legs and neck; they do not venture abroad till about twenty days after their extrusion. During this time, the parents feed them with snails, small fish, or frogs. It is said that the hawks, which plunder the nests of most of the marsh-birds, seldom dare to attack those of the Bittern, on account of the old ones being always on their guard to defend their offspring.

A female Bittern, which was killed during the frost in winter, was found to have in her stomach several warty lizards, quite perfect, and the remains of some toads and frogs. These were supposed to have been taken out of the mud, under shallow water, in the swamp where the bird was shot.

In the reign of Henry the Eighth, the Bittern was held in great esteem at the tables of the great. Its flesh has much the flavour of hare, and is far from being unpleasant: even now the poulterers value this bird at about half-a-guinea. The hind-claw, which is remarkably long, was once supposed a grand preservative for the teeth; and was often set in silver, and used as a tooth-pick.

OF THE SNIPE TRIBE IN GENERAL.

In this tribe the bill is long, slender, weak, and straight. The nostrils are linear, and lodged in a furrow. The head is entirely covered with feathers. The feet have each four toes; the hind one of which is very short, and consists of several joints.

THE CURLEW *.

Large flocks of Curlews are frequently seen, in the winter season, on the sea coasts, running about upon the sands, and feeding on shell-fish, crabs, and marine insects; and in the marshes, where they subsist on small frogs, snails, insects, and worms. Their bill is so long, weak, and slender, that it is calculated only for digging into soft mud or earth, in search of prey.

The English name of this bird is evidently derived from its cry. The same is the case with respect to its appellation in France, of *courlis*, and *turlis*.

In the summer time the Curlews retire to mountainous and unfrequented parts of the country, where they pair and breed. The eggs, which are four in number, are of a pale

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* Description. These birds differ much in size; some of them weighing thirty-seven, and others not twenty-two ounces. The head, neck, and coverts of the wings are of a pale brown, and the middle of each feather is black. The breast and belly are white, marked with narrow oblong black lines. The back is white, spotted with a few black strokes. The quill feathers are black, but the inner webs are spotted with white. The tail is white, tinged with red, and beautifully barred with black. The legs are long, strong, and of a bluish gray colour. *Pennant.*

Synonyms. Scolopax arquata. *Linnæus.*—Le Courlis. *Buffon.*—Courlis and Turlis in France.—*Bewick's Birds,* ii. 54.

olive-colour, marked with irregular but distinct spots of brown.

Curlews are also migratory on the Continent. They are found in Italy, France, and Germany, advancing in the summer time as far north as the Baltic Sea, and the Gulf of Bothnia. They pass the island of Malta twice a year, in the spring and autumn, in their migrations across the Mediterranean.

Their flesh, as food, varies much in quality, according to the season and the place in which the birds have fed. Those that are shot on the moors are always better than those killed on the sea coasts or in the marshes.

THE WOODCOCK *.

During the summer time the Woodcock is an inhabitant of Norway, Sweden, Lapland, and other northern countries, where it breeds. As soon, however, as the frosts commence, it retires southward to milder climates. These birds arrive in Great Britain in flocks; some of them in October, but not in great numbers till November and December. They generally take advantage of the night, being seldom seen to come before sun-set. The time of their arrival depends considerably on the prevailing winds; for adverse gales always detain them, they not being able to struggle with the boisterous squalls of the Northern Ocean. After their arrival in bad weather, they have often been seen so much exhausted as to allow themselves to be seized by the hand when they alighted near the coast.

They live on worms and insects; which they search for with their long bills in soft ground and moist woods, feed-

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* Synonyms. Scolopax Rusticola. *Linn.*—Becasse. *Buff.*—*Penn. Brit. Zool.* ii. *tab.* 65—*Bew. Birds*, ii. *p.* 60.

ing and flying principally in the night. They go out in the evening; and generally return in the same direction, or through the same glades, to their day retreat.

The greater part of them leave this country about the latter end of February or the beginning of March, always pairing before they set out. They retire to the coast, and, if the wind be fair, set out immediately; but, if contrary, they are often detained in the neighbouring woods and thickets for some time. In this crisis the sportsmen are all on the alert, and the whole surrounding country echoes the discharge of guns: seventeen brace have been killed by one person in a day. But if they are detained long on the dry heaths, they become so lean as to be scarcely eatable. The instant a fair wind springs up, they seize the opportunity; and where the sportsman has seen hundreds in one day, he will not find even a single bird the next.

Very few of them breed in England; and perhaps with respect to those that do, it may be owing to their having been so wounded by the sportsmen in the winter, as to be disabled from taking their long journey in spring. They build their nests on the ground, generally at the root of some tree; and lay four or five eggs, about the size of those of a pigeon, of a rusty colour, and marked with brown spots. They are remarkably tame during incubation: a person who discovered a Woodcock on its nest, often stood over, and even stroked it; notwithstanding which, it hatched the young ones, and, in due time, disappeared with them.

A single bird was observed to remain in a coppice, belonging to a gentleman in Dorsetshire, through the summer. The place, from its shady and moist situation, was well calculated to maintain it; yet by degrees it lost almost all its feathers, so that for some time it was not able to fly, and was often caught; but in the autumn it recovered its feathers and strength, and flew away.

It has been remarked in England, that for several years

past, Woodcocks have become very scarce. This is easily accounted for. Sweden, like other countries, is making a gradual progress in the arts of luxury; among which the indulgence of the palate fills no undistinguished place. The eggs of wild-fowl have of late become a great delicacy among the inhabitants of that country, who encourage the peasantry to find out their nests. The eggs of the Woodcock they are particularly fond of; and the peasants offer them in large quantities for sale, in the market of Stockholm. From this practice it is not improbable that the breed, not only of this bird, but of several of the species of grous, will be greatly diminished, if not at last totally extirpated.

The inhabitants of the north of Europe, to whose forests the Woodcocks retire in the summer, never eat them; esteeming their flesh unwholesome, from the circumstance of their having no crops.

In Lancashire, great numbers of Woodcocks are taken by means of traps in moonlight nights. Long parallel rows of stones or sticks, about four or five inches high, are made on the commons which they frequent. In these rows several intervals or gateways are left, in which the traps are placed. When the bird, running about in search of food, comes to one of these rows, he will not cross it, but runs along the side till he comes to a gateway; which he enters, and is caught.

THE COMMON SNIPE*, AND JACK SNIPE†.

It is stated, that the Common Snipes never frequent woods; but, during the winter season, they are very com-

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* SYNONYMS. Scolopax gallinago. *Linnæus.*—Le Bécassine. *Buffon.*—Heather Bleater, in the north of England.—*Bewick's Birds*, ii. 68.

† SYNONYMS. Scolopax gallinula. *Linnæus.*—La petite Bécas-

mon in wet meadows, pastures, and marshes, where they lie concealed among the rushes, carices, and osiers, which grow upon the borders of the streams. When roused by the approach of the sportsman or his dogs, they utter a feeble whistle, and generally fly off against the wind, turning nimbly, in a zig-zag direction, for a considerable distance, and sometimes soaring almost beyond the reach of vision.

In severe frosts, Snipes, driven by the extremity of the weather, resort to sheltered springs, unfrozen boggy places, or any open streamlet of water. Here they are oftentimes found in large flights, and so subdued by cold or hunger, that they will sit till nearly trodden upon before they will take flight.

These birds feed on small worms, on slugs, and the larvæ of insects, in search of which they are constantly digging and nibbling with their bills in the soft mud.

In the summer time they disperse to different parts, and, at this season, are to be found even amongst the highest mountains, as well as on the lowest and most extensive moors. They are migratory, a considerable portion of them leaving Great Britain in the spring of the year, and returning in the autumn. Many, however, remain with us through the whole year. These make their nests, of dried grass and feathers, in the most retired and inaccessible parts of the marshes, and generally under the stump of an alder or a willow. The female lays four eggs, of a dirty olive-colour, marked with dusky spots. The young ones are able to run off almost immediately after they are freed from the shell; but they are attended by the parent birds until their bills have acquired

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sine, surnommée la sourde. *Buffon.*—In some parts of France it is called Bécet, Jaquet, and Deux pour un.—Judcock and Gid, in several parts of England.—*Bewick's Birds*, ii. *p.* 73.

a sufficient firmness to enable them to provide for themselves.

During the breeding season these birds play over the moors, piping and humming in a most pleasing manner. This humming, which is always heard when the bird descends, is supposed by the Rev. Mr. White, either to be ventriloquous, like that of the turkey, or else to be produced by the motion of the wings. It is also amusing to observe the male bird, whilst his mate sits upon her eggs, poise himself, as he frequently does, on his wings, making sometimes a whistling, and sometimes a humming noise.

There are no birds more generally esteemed for the table than these. They much resemble the woodcock in flavour, but are more delicate eating. Like the woodcock, they are cooked without extracting the entrails; and though generally very fat, they seldom cloy even the weakest stomach.

The Rev. Mr. Daniel states, that, about thirty years ago, Snipes were so abundant in the fens of Cambridgeshire, that as many were taken in Milton fen, by means of a lark net, in one night, and by a single man, as could be contained in a small hamper.

In most respects the habits of the *Jack Snipe* resemble those of the common species. Their flight is swifter and more direct. From the circumstance of their not rising until almost trodden upon, the French sportsmen have given to this bird the appellation of *la sourde*, or *deaf*. From the silky and somewhat filamentary appearance of the feathers, the Germans denominate it *haar-schnepffe*, or "hair snipe."

The species are either not very numerous, or are not very generally dispersed in this country. They continue with us almost the whole year. They breed in the marshes, and their eggs are of the same colour as those of the

Common Snipe, but are considerably smaller in size, not being much larger, says Mr. Pennant, than those of the lark.

OF THE SANDPIPERS IN GENERAL.

The Sandpipers have a straight and slender bill, about an inch and a half long; small nostrils; and a slender tongue. The toes are divided; or are very slightly connected at the base by a membrane: the hinder toe is short and weak.

THE RUFF AND REEVE*.

The name of *Ruff* has been given to the male of this species, from the long feathers which stand out on the back part of the head and neck, and which remind a casual observer of the ruffs that were worn by our ancestors. The female, which is called the *Reeve*, is destitute of this singular appendage.

The male bird does not acquire his ruff till the second season, being until that time in this respect like the female;

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* Description. The Ruff is about a foot in length, with a bill about an inch long. The face is covered with yellow pimples. A few of the feathers of the Ruff stand up over each eye, and appear not unlike ears. The colours of the Ruffs are in no two birds alike: in general they are brownish, and barred with black; though some have been seen that were altogether white. The lower parts of the belly and the tail-coverts are white. The tail is tolerably long, having the four middle feathers barred with black; the others are pale brown. The legs are of a dull yellow, and the claws black. The female is smaller than the male, and of a brown colour.

Synonyms. Tringa pugnax. *Linn.*—Combatant, ou Paon de Mer. *Buff.*—*Penn. Brit. Zool. vol.* ii. *tab.* 69.—*Bew. Birds*, ii. *p.* 96.

as he is also annually from the end of June until the pairing season. After the time of incubation, the long feathers fall off, and the caruncles shrink in under the skin, so as not to be discerned.

These are birds of passage; and arrive in the fens of Lincolnshire, the Isle of Ely, and the East Riding of Yorkshire, in the spring, in great numbers. Mr. Pennant tells us, that in the course of a single morning, there have been above six dozen caught in one net: and that a fowler has been known to catch between forty and fifty dozen in a season.

The males are much more numerous than the females, and they have many severe contentions for their mates. The male chuses a stand on some dry bank, near a splash of water, round which he runs so often, as to make a bare circular path: the moment a female comes in sight, all the males within a certain distance, commence a general battle; placing their bills to the grouud, spreading the feathers of their neck, and using the same action as a cock: and this opportunity is seized by the fowlers, who, in the confusion, catch them, by means of nets, in great numbers.

An erroneous opinion prevails very generally, that Ruffs when in confinement must be fed in the dark, lest the admission of light should set them to fighting. The fact is, that every bird, even when kept in a room, takes its stand, as it would in the open air; and if another invades its circle, a battle ensues. A whole roomful of them may be set into fierce contest by compelling them to shift their stations; but, after the disturber has quitted the place, they have been observed to resume their circles, and become again pacific. In confinement, their quarrels usually originate in the circumstance of the pan containing their food, not being sufficiently large to admit the whole party to feed, without touching each other. When

the food has been divided into several pans, the birds have continued perfectly quiet.'

The Reeves lay four eggs in a tuft of grass, about the beginning of May; and the young ones are hatched in about a month.

It is not known with certainty in what countries these birds pass the winter.

THE LAPWING *.

The chief food of the Lapwings consists of worms; and sometimes they may be seen in flocks, nearly covering the low marshy grounds, in search of these, which they draw with great dexterity from their holes. When the bird meets with one of those little clusters of pellets, or rolls of earth, that are thrown out by the worm's perforations, it first gently removes the mould from the mouth of the hole, then strikes the ground at the side with its foot, and steadily and attentively waits the issue: the reptile, alarmed by the shock, emerges from its retreat, and is instantly seized †. In the evening the Lapwings pursue a different plan: they run along the grass, and feel under their feet the worms, which now come forth invited by the coolness of the air. Thus they obtain a plentiful meal; and afterwards wash their bill and feet in the small pools or rivulets.

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* SYNONYMS. Tringa Vanellus. *Linn.*—Vanneau. *Buff.*—Lapwing, or Bastard Plover. *Willughby.*—*Bew. Birds*, i. p. 324.

† "To ascertain this circumstance, (says M. Baillon,) I employed the same stratagem: in a field of green corn, and in the garden, I beat the earth for a short time, and saw the worms coming out. I pressed down a stake, which I then turned in all directions to shake the soil: this method succeeded still quicker; the worms crawled out in crowds, even at the distance of a fathom from the stake."

"I have seen this bird (says Dr. Latham) approach a worm cast, turn it aside, and, after making two or three turns about, by way of giving motion to the ground, the worm came out, and the watchful bird, seizing hold of it, drew it forth."

Lapwings are found in most parts of Europe, as far northward as Iceland; and in the winter they are to be met with in Persia and Egypt. In England they remain during the whole year. The female lays two eggs on the dry ground, near some marsh, upon a little bed which she prepares of dry grass. These are olive-coloured, and spotted with black. She sits about three weeks; and the young ones are able to run within two or three days after they are hatched.

The parent exhibits the greatest attachment to them; and the arts used by this bird to allure boys and dogs from the place where they are running, are extremely amusing. She does not wait the arrival of her enemies at the nest, but boldly pushes out to meet them. When as near as she dare venture, she rises from the ground with a loud screaming voice, as if just flushed from hatching, though probably at the same time not within a hundred yards of her nest. She now flies with great clamour and apparent anxiety: whining and screaming round the invaders, striking at them with her wings, and sometimes fluttering as if she was wounded. To complete the deception, she becomes still more clamorous as she retires from the nest. If very near, she appears altogether unconcerned; and her cries cease in proportion as her fears are augmented. When approached by dogs, she flies heavily, at a little distance before them, as if maimed; still vociferous, and still bold, but never offering to move towards the quarter where her young are stationed. The dogs pursue, in expectation every moment of seizing the parent, and by this means actually lose the young; for the cunning bird, having thus drawn them off to a proper dis-

tance, exerts her powers, and leaves her astonished pursuers to gaze at the rapidity of her flight.

There are few readers acquainted in any degree with the country, who will not recollect how justly the following lines describe the manners of this bird:

> ———Hence, around the head
> Of wand'ring swains, the white-wing'd Plover wheels
> Her sounding flight; and then directly on,
> In long excursion, skims the level lawn,
> To tempt them from her nest.

The following anecdote, inserted in Mr. Bewick's History of British Birds, exhibits the domestic nature of the Lapwing; as well as the art with which it conciliates the regard of animals materially differing from itself, and generally considered as hostile to every species of the feathered tribe. Two Lapwings were given to a clergyman, who put them into his garden; one soon died, but the other continued to pick up such food as the place afforded, till winter deprived it of its usual supply. Necessity soon compelled it to draw nearer the house; by which it gradually became familiarized to occasional interruptions from the family. At length one of the servants, when she had occasion to go into the back-kitchen with a light, observed that the Lapwing always uttered his cry of "*Pee-wit*," to obtain admittance. He soon grew more familiar; as the winter advanced, he approached as far as the kitchen; but with much caution, as that part of the house was generally occupied by a dog and a cat, whose friendship, however, the Lapwing at length conciliated so entirely, that it was his regular custom to resort to the fire-side as soon as it grew dark, and spend the evening and night with his two associates, sitting close by them, and partaking of the comforts of the warmth. As soon as spring appeared, he discontinued his visits to the house,

and betook himself to the garden; but on the approach of winter, he had recourse to his old shelter and friends, who received him very cordially. Security was productive of insolence; what was at first obtained with caution, was afterwards taken without reserve: he frequently amused himself with washing in the bowl which was set for the dog to drink out of; and while he was thus employed, he showed marks of the greatest indignation if either of his companions presumed to interrupt him. He died in the asylum he had thus chosen, being choaked with something that he had picked up from the floor.

THE TURNSTONE*.

This bird is found on various parts of the English and Scotish coasts, and in North America. It has its English name from its custom of turning over stones, in order to prey upon the insects and worms concealed beneath them.

When Mr. Catesby was on his voyage to North America, one of these birds, about forty leagues from the coast of Florida, flew on board the vessel. It was put into a cage, and shewed much activity in turning up stones that were put to it: but not finding under them its proper food, it soon died. In this action it was observed to move only the upper mandible of its bill, yet it was able, with great dexterity and quickness, to turn over stones of three pounds weight.

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* Description. The Turnstone is about the size of a thrush; its bill is black, about an inch in length, and a little turned up at the end. The body is black, variously marked with white and rust colour on the upper parts: the breast and belly are white. The legs are short and orange-coloured.

Synonyms. Tringa Interpres. *Linn.*—Tourne-pierre. *Buff.*—Turnstone or Sea Dottrel. *Willughby.*

The Turnstone makes its nest in the sand, and lays three or four olive-coloured eggs, spotted with black. At the time of hatching, it has so much courage, as to attack both men and dogs when they approach its nest.

OF THE PLOVERS IN GENERAL.*

Most of these birds are found about the mouths of great rivers, and in the neighbourhood of torrents; but two of the English species, the Norfolk, and the Golden Plover, frequent heaths and moors.

THE DOTTEREL†.

These birds are migratory; appearing in flocks of eight or ten, about the end of April; and continuing all May and June, when they become very fat, and are much esteemed

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* The Plovers have a straight, somewhat cylindrical and obtuse bill, seldom longer than the head. The feet are formed for running; with three toes, all placed forwards.

† DESCRIPTION. The length of the Dotterel is about ten inches. The bill is not quite an inch long, and is black. The forehead is mottled with brown and gray: the top of the head is black; and over each eye there is an arched line of white, which passes to the hind part of the neck. The cheeks and throat are white: the back and wings are of a light brown, inclining to olive, each feather margined with pale rust colour. The fore part of the neck is surrounded by a broad band of a light olive colour, bordered below with white. The breast is of a pale dull orange: the middle of the belly black; and the rest of the belly and the thighs are of a reddish white. The tail is olive brown, black near the end, and tipped with white; and the outer feathers are margined with white. The legs are of a dark olive.

SYNONYMS. Charadrius Morinellus. *Linn.*—Petit Pluvier, ou Guignard. *Buff.*—*Bew. Birds*, i. p. 334.—*Penn. Brit. Zool. vol.* ii. *tab.* 73.

for the table. They are found in tolerable plenty in Cambridgeshire, Lincolnshire, and Derbyshire; but in other parts of the kingdom they are scarcely known. They are supposed to breed among the mountains of Westmorland and Cumberland.

The Dotterel is in its manners a very singular bird, and may be taken by the most simple artifice. The country people are said sometimes to go in quest of it, in the night, with a lighted torch or candle: and the bird on these occasions will mimic the actions of the fowler with great archness. When he stretches out an arm, it stretches out its wing; if he moves a foot, it moves one also; and every other motion it endeavours to imitate. This is the opportunity that the fowler takes of entangling it in his net. Willughby states, that formerly, six or seven persons usually went in company to catch Dotterels. When they found the bird, they set their net in an advantageous place; then each of them with a stone in either hand, getting behind it, and striking the stones often one against the other, they roused it from its natural sluggishness, and, by degrees, drove it into the net. The more certain method of the gun, has of late nearly superseded both these artifices.

THE LONG-LEGGED OR STILT PLOVER*.

Of the Stilt Plover Mr. White has given us a very pleasing description: "In the last week of April, 1779, five of these most rare birds were shot upon the verge of Frensham-pond; a large lake belonging to the Bishop of Winchester, and lying between Woolmer-forest and the town

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* SYNONYMS. Charadrius himantopus. *Linn.*—Echasse. *Buff.*—Long-legs. *Ray.*—Long-legged Plover. *Penn.*—Stilt Plover. *White.* —*Bew. Birds*, ii. p. 4.

of Farnham, in the county of Surrey. The pond-keeper says, there were three brace in the flock; but that after he had satisfied his curiosity, he suffered the sixth bird to remain unmolested.

"One of these specimens I procured; and found the length of the legs to be so extraordinary, that, at first sight, one might have supposed the shanks had been fastened on, to impose on the credulity of the beholder: they were legs *in caricatura;* and had we seen such proportions on a Chinese or Japan screen, we should have made large allowance for the *fancy* of the draughtsman.

"These birds are of the Plover family, and might with propriety be called the *Stilt Plovers.* My specimen, when drawn and stuffed with pepper, weighed only four ounces and a quarter, though the *naked* part of the thigh measured three inches and a half. Hence we may safely assert, that these birds exhibit weight for inches, and have incomparably the greatest length of legs of any known bird. The *Flamingo,* for instance, is one of the most long-legged birds, and yet it bears no manner of proportion to the *Himantopus:* for a cock Flamingo weighs, at an average, about four pounds avoirdupois; and his legs and thighs measure usually about twenty inches. But four pounds are fifteen times and a fraction more than four ounces and a quarter; and if four ounces and a quarter have eight inches of legs, four pounds must have one hundred and twenty inches and a fraction of legs, or somewhat more than ten feet; such a monstrous proportion as the world never saw*! If we try the experiment in still larger birds, the disparity would increase. It must be matter of great

* It ought here to be remarked, that Mr. White appears to have calculated the weights of these birds unfairly; the Plover after it was stuffed, and the Flamingo from a perfect bird; which, in the comparison of weights, will make a difference extremely material.

curiosity to see the Stilt Plover move; to observe how it can wield such a length of lever with such feeble muscles as the thighs seem to be furnished with. At best, one should expect it to be but a bad walker: but what adds to the wonder is, that it has no back toe. Now, without that steady prop to support its steps, it must, theoretically, be liable to perpetual vacillations, and seldom able to preserve the true centre of gravity.

"These long-legged Plovers are birds of South Europe, and rarely visit our island; and, when they do, are wanderers and stragglers, and impelled to make so distant and northern an excursion, from motives or accidents for which we are not able to account."

This bird is common in Egypt and the warmer parts of America, where it feeds on flies and other insects.

OF THE RAIL TRIBE.*

There are few countries of the world in which some of the species of this tribe are not found. The greater part of them reside in the neighbourhood of marshes, and morassy places, where they subsist on worms, snails, and insects. The females construct their nests on the ground, and generally rear very numerous broods.

THE LAND RAIL†.

The harsh cry of this bird, which somewhat resembles the word *crek*, *crek*, *crek*, is by no means unlike the noise

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* The bill is thickest at the base, attenuated on the back towards the tip, compressed, a little incurved, and pointed. The tongue is rough at the tip. The body is compressed, and the tail short. The feet have each four toes.

† DESCRIPTION. The bill of the Land-rail is short, strong, and thick. The feathers on the crown of the head, the hind part of the

made by stripping forcibly the teeth of a large comb under the fingers. It is chiefly heard in the summer season, amongst the long grass and corn. Here the bird constantly skulks amongst the thickest part of the herbage, winding and doubling, in every direction, in such manner that it is generally difficult for any person to come near it. When hard pushed by the sportsman or his dogs, it sometimes stops short, and its too eager pursuers overshoot the spot, and lose all trace of it.

So rare is this bird in some parts of Hampshire, that, a few years ago, the common people of the village of Emsworth were thrown into a state of great alarm, by the presence of one of them in their fields. Unable to account for the very extraordinary noise that was heard, many of them attributed it to supernatural agency.

Ill calculated as this bird, from the shortness of its wings, and the position and length of its legs, appears to be for flight, it certainly is able to fly with considerable swiftness. It is, in general, very unwilling to rise from the ground; and such is its timidity, that it will sometimes squat so close as to suffer itself to be taken up into the hand rather than rise.

It is a bird of passage, generally making its appearance about the same time with the quail. Its well known cry is first heard about the time when the grass becomes long enough to afford it shelter. It usually appears in the Island of Anglesea, about the twentieth of April, after a

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neck, and the back, are black edged with bay. The coverts of the wings are of the same colour; but not spotted. The tail is short and of a deep bay. The belly is white, and the legs are ash-coloured. These birds generally weigh from six to eight ounces.

Synonyms. Rallus crex. *Linn.*—Le Rale de genet, ou Roi de Cailles. *Buff.*—Crake Gallinule. *Penn.*—Land Hen. *Willughby.*—Daker Hen, in several parts of England.—*Bew. Birds*, i. p. 325.

passage, as it is supposed, from Ireland. On the first arrival of these birds in the island, it is usual for one sportsman to shoot as many as seven or eight of them in a morning.

It appears that Land Rails frequent the fields more for the sake of snails, slugs, and other vermes which abound in such places, than for the grain or seeds they might find there. This is confirmed by the observation of the Rev. Mr. White, that, in the gizzard of one of these birds, he had found several small shell-snails, some of them whole, and many ground to pieces through the attrition occasioned by the muscular force and motion of that member. The entrails were so soft and tender, that, in appearance, they might have been dressed like the ropes of a woodcock.

The female constructs her nest on the ground, of moss and dry grass, negligently put together. The number of eggs is generally about ten or twelve, of a pale ash-colour, marked with ferruginous spots. The young ones are able to run as soon as they have burst the shell.

Land Rails are not only found throughout the whole continent of Europe, but likewise in several parts both of Asia and Africa.

OF THE FLAMINGO TRIBE.

The Flamingoes combine the characters of the two Linnæan orders, the Waders and the Swimmers*. They have long neck and legs. Their bill is thick, large, and bending in the middle. The higher part of the upper mandible is keel-shaped; the lower compressed. The edges of the upper mandible are sharply indented; those of the lower transversely furrowed. The nostrils are covered above with a thin plate, and are pervious. The

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* *Grallæ* and *Anseres*.

tongue is cartilaginous, and pointed at the end; the middle part is muscular, and the upper part aculeated. The neck is long. The legs and thighs are of great length; the feet are webbed; and the back toes very small.

THE RED FLAMINGO *.

When the Europeans first visited America, they found the Flamingoes on the shores tame and gentle, and no way distrustful of mankind. If one of them was killed, the rest of the flock, instead of attempting to fly, only regarded the fall of their companion with a kind of fixed astonishment: another and another shot was discharged; and thus the fowler often levelled the whole flock, without one of them attempting to escape. Now, however, they regard us with aversion. Wherever they haunt, one of the number, it is said, is always appointed to watch while the rest are employed in feeding; and the moment he perceives the least danger, he gives a loud scream, in sound not much unlike a trumpet, and instantly the whole flock is on wing. They feed in silence; but, when thus roused, they all join in the noise, and fill the air with their screams.

Their nest is of a singular construction. It is formed of mud, in the shape of a hillock, with a cavity at the top. In this the female generally lays two white eggs, of the size of those of a goose, but longer. The hillock is of such a height as to admit of the bird's sitting on it, or rather standing, as her legs are placed one on each side at full length.

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* DESCRIPTION. The body of the Red Flamingo is about the size of that of a goose; but its legs and neck are of such extraordinary length, that when it stands erect it is upwards of six feet in height. The body is of a beautiful scarlet. It is an inhabitant of those parts of America that are as yet but thinly peopled.

SYNONYMS. Phœnicopterus ruber. *Linn.*—Flamant. *Buff.*—*Latham's Synopsis*, iii. *tab.* 93.

Linnæus tells us that she will sometimes lay her eggs on the projecting part of a low rock, if it happens to be sufficiently convenient to admit of the legs being placed in this manner on each side.

It is not until a long time after they are hatched that the young ones are able to fly; but they can previously run with amazing swiftness. They are sometimes caught at this age; and, very different from the old ones, they suffer themselves to be carried away, and are easily tamed. In five or six days they become familiar, and will even eat out of the hand; and they drink a surprising quantity of sea-water. But, though easily rendered domestic, it is difficult to rear them; as they are apt to decline, from the want of their natural food.

Flamingoes are often met with in the warmer parts of the Old Continent; and, except in the breeding-time, are generally found in great flocks. When seen at a distance, they appear like a regiment of soldiers; being often ranged alongside of one another on the borders of rivers, searching for food, which consists principally of small fish and water insects:—these they take by plunging the bill and part of the head into the water; and from time to time trampling the bottom with their feet, to disturb the mud in order to raise up their prey. In feeding, they are said to twist their neck in such a manner, that the upper part of the bill is applied to the ground.

These beautiful birds were much esteemed by the Romans, who often used them in their grand sacrifices and sumptuous entertainments. Their flesh is thought tolerably good food: and the tongue was looked upon by the antients as among the most delicate of all eatables. Pliny, Martial, and many other writers, speak of it in high terms of commendation.

Swimmers *.

OF THE DUCK TRIBE IN GENERAL.

The bill in this tribe, (which comprehends Swans and Geese, as well as Ducks) is strong, broad, flat, and generally furnished at the end with a kind of nail: the edges of the mandibles are marked with sharp serratures. The nostrils are small and oval. The tongue is broad, having the edges fringed near the base. The toes are four in number, three before and one behind; the middle one is the longest.

THE HOOPER, OR WHISTLING SWAN †.

This species is an inhabitant of the northern regions; never appearing in England except in hard winters, when flocks of five or six are now and then seen. Martin states, that in the month of October, Swans come in great numbers to Lingey, one of the Western Isles, and continue there

* In the *Anseres* or Swimmers, the bill is smooth, obtuse at the point, and covered with a membranaceous skin. The legs are short and compressed; and the feet formed for swimming, the toes being connected by a membrane.

† DESCRIPTION. The Whistling Swan is somewhat smaller than the tame species. The bill is three inches long; yellowish white to the middle, but black at the end. The whole plumage is white; and the legs are black.

SYNONYMS. Anas Cygnus. *Linn.*—Cygne sauvage. *Buff.*—Wild Swan, Elk, Hooper. *Willughby.*—Whistling Swan. *Latham.*

till March, when they return northward to breed. A few continue in Mainland, one of the Orkneys, and breed in the little islands of the fresh-water lochs; but the principal part of them retire at the approach of spring. They are called the Countryman's Almanack; for their quitting the island is said to presage good weather, and their arrival the reverse.

In Iceland, these birds are an object of chase. In the month of August they lose their feathers to such a degree, as not to be able to fly. The natives, at that season, resort in great numbers to the places where they most abound; and are accompanied with dogs, and active and strong horses, trained to the sport, and capable of passing nimbly over the boggy soil and marshes. The Swan will run as fast as a tolerably fleet horse. The greater number are caught by the dogs; which are taught to seize them by the neck—a mode of attack that causes them to lose their balance, and become an easy prey.

Notwithstanding their size, these birds are so extremely swift on the wing, when in full feather, as to make them more difficult to shoot than almost any others; it being frequently necessary to aim ten or twelve feet before their bills. This, however, is only when they are flying before the wind in a brisk gale; at which time they seldom proceed at the rate of less than a hundred miles an hour: but when flying across the wind or against it, they are not able to make any great progress.

The present species has several distinctions from that called by us the Tame Swan: but the most remarkable one is the strange form of the windpipe; which falls into the chest, then turns back like a trumpet, and afterwards makes a second bend to join the lungs. By this curious construction, the bird is enabled to utter a loud and shrill note. The Tame Swan, on the contrary, is the most silent of all the feathered tribes; it can do nothing more than

hiss, which it does on receiving any provocation.—The vocal Swan emits its loud notes only when flying, or calling: its sound is, *whoogh, whoogh,* very loud and shrill, but not disagreeable when heard high in the air and modulated by the winds. The Icelanders compare it to the notes of the violin: they hear it at the end of their long and gloomy winter, when the return of the Swans announces also the return of summer; every note, therefore, must to them be melodious which presages a speedy thaw, and a release from their tedious confinement.

It was from this species alone that the antients derived their fable of the Swan's being endowed with the powers of melody. Embracing the Pythagorean doctrine, they made the body of this bird the mansion of the souls of departed poets; and then attributed to the birds the same faculty of harmony which they had thus possessed in a pre-existent state. And the vulgar, not distinguishing between sweetness of numbers and melody of voice, thought that real which was only intended figuratively.—The Mute or Tame Swan never frequents the Padus; "and I am almost equally certain (says Mr. Pennant) that it never was seen on the Cayster in Lydia; each of them, streams celebrated by the poets for the grand resort of Swans. The Padus was styled *Oloriferus,* from the numbers of these birds which frequent its waters; and there are few of the poets, either Greek or Latin, who do not make them its inhabitants."

THE TAME OR MUTE SWAN *.

Nothing can exceed the beauty and elegance with which the Swan rows itself along in the water, throwing itself into

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* SYNONYMS. Anas Olor. *Linn.*—Cygne. *Buff.*—Tame Swan, Mute Swan. *Penn.*—*Bew. Birds,* ii. p. 277.

the proudest attitudes imaginable before the spectators; and there is not perhaps in all nature a more lively or striking image of dignity and grace. In the exhibition of its form, we see no broken or harsh lines, no constrained or abrupt motions, but the roundest contour and the easiest transitions imaginable: the eye wanders over every part with pleasure, and every part takes new grace with new postures.

> The Swan, with arched neck
> Between her white wings mantling, proudly rows
> Her state with oary feet.

She exhibits, however, but an inelegant appearance on land.

This bird is able to swim faster than a man can walk. It is very strong, and at times extremely fierce: it has not unfrequently been known to throw down and trample upon youths of fifteen or sixteen years of age: and an old Swan, we are told, is able to break the leg of a man with a single stroke of its wing.—A female, while in the act of sitting, observed a fox swimming towards her from the opposite shore: she instantly darted into the water, and, having kept him at bay for a considerable time with her wings, at last succeeded in drowning him; after which, in the sight of several persons, she returned in triumph. This circumstance took place at Pensy in Buckinghamshire.

Swans are very long-lived, sometimes arriving at the great age of a hundred years. The flesh of the old birds is hard and ill-tasted; but that of the young ones, or cygnets, was formerly much esteemed; at present, cygnets are fattened near Norwich, but chiefly for the tables of the corporation of that place. Persons who have property on the river there, take the young birds and send them to some one who is employed by the corporation, in

order to be fed; and for his trouble he is paid about half-a-guinea *per* bird. They were a few years ago valued at a guinea each; but when sold, they now bring much more.—In the river Thames they are in great plenty. Here they are royal property, and it is accounted felony to steal their eggs. In the reign of Edward the Fourth, Swans were held in such estimation, that "no person who did not possess a freehold of the clear yearly value of five marks" was permitted to keep any.

At Abbotsbury in Dorsetshire, there was formerly a noble swannery, the property of the Earl of Ilchester, where six or seven hundred birds were kept; but from the mansion being almost deserted by the family, this collection has of late years been much diminished. The royalty belonged antiently to the abbot, and previously to the dissolution of monasteries, they frequently amounted to more than double this number.

These birds are found wild in Russia and Siberia.

The Swan makes its nest of grass, among reeds; and in February begins to lay, depositing an egg every other day till there are six or eight. These occupy six weeks in hatching. Dr. Latham says, he knew two females that for three or four years successively agreed to associate, and had each a brood yearly, bringing up together about eleven young ones; they sate by turns, and never quarrelled.—When in danger, the old Swans carry off their offspring on their backs.

THE SNOW GOOSE*.

These birds are very numerous about Hudson's Bay; where they are migratory, going further northward to

* Description. This bird is about the size of the common goose. The upper mandible of the bill is scarlet, and the lower one

breed. They are also found in the northern parts of the Old Continent.

The Snow Geese have so little of the shyness of the other species, that they are taken in the most ridiculous manner imaginable, about Jakut, and the other parts of Siberia which they frequent. The inhabitants place near the banks of the rivers a great net in a straight line; or else form a hovel of skins sewed together. This done, one of the company dresses himself in the skin of a white rein-deer, advances towards the flock of Geese, and then turns back towards the net or hovel; and his companions go behind the flock, and, by making a noise, drive them forward. The simple birds mistake the man in white for their leader, and follow him within reach of the net; which is suddenly pulled down, and thus captures the whole. When he chooses to conduct them even into the hovel, they follow in the same manner; he creeps in at a hole left for that purpose, and out at another on the opposite side, which he closes up. The Geese follow him through the first; and as soon as they are in, he passes round and secures every one of them *.—In that frozen climate they afford an essential means of subsistence to the natives; and the feathers are an article of commerce. Each family will kill thousands in a season; which, after being plucked and

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whitish. The general colour of the plumage is white; except the first ten quills of the wings, which are black with white shafts. The young are of a blue colour, till they are a year old. The legs are red.

SYNONYMS. Anas hyperborea. *Linn.*—White Brant. *Lawson.*—Snow Goose. *Penn.*

* Mr. Hearne, in his Journey to the Northern Ocean, p. 440, says, that if these be the same Birds as the Snow Goose of Hudson's Bay, they must vary much in their manners; for there they are the shyest and most watchful of all the species of Geese, never suffering a person to approach them within two or three gun-shots.

gutted, are flung in heaps into holes dug for that purpose, and covered only with earth. The mould freezes, and forms over them an arch; and whenever the family have occasion to open one of these magazines, they find their provisions perfectly sweet and good.

THE WILD GOOSE *.

The fens of Lincolnshire, Cambridgeshire, and several other parts of England, abound in Wild Geese, which are supposed not to migrate in this country, as they do in some parts of the Continent. They are oftentimes seen in flocks of from fifty to a hundred, flying at very great heights, and seldom resting by day. Their cry is frequently heard while they are imperceptible to the sight, from their distance above. Whether this be their note of mutual encouragement, or only the necessary consequence of respiration, seems somewhat doubtful; but they seldom exert it when they alight in their journies. On the ground they always arrange themselves in a line, and seem to descend rather for rest than refreshment; for, having continued in this manner for an hour or two, one of them with a long, loud note sounds a kind of signal, to which the rest always punctually attend, and rising in a group they pursue their journey with alacrity. Their flight is conducted with vast regularity. They always proceed either in a line a-breast, or in two lines joining in an angle at the middle. In this order they generally take the lead by turns, the foremost falling back in the rear when tired, and the next in station succeeding to his duty.—Their track is generally so high, that it is almost impossible to reach them from a fowling-

* Synonyms. Anas Anser. *Linn.*—Oye sauvage. *Buff.*—Gray Lag Goose. *Penn.*—Fen Goose. *Lister.*—Wild Goose, Tame Goose, *var.*—*Bew. Birds*, ii. p. 292—297.

piece; and even when this can be done, they file so equally, that one discharge seldom kills more than a single bird.

They breed in the plains and marshes about Hudson's Bay in North America: in some years the young ones are taken in considerable numbers; and at this age they are easily tamed. It is, however, extremely singular, that they will never learn to eat corn, unless some of the old ones are taken along with them.

Our common tame Goose is no other than this species in a state of domestication.

These birds are no where kept in such vast quantities as in the fens of Lincolnshire; several persons there having as many as a thousand breeders. They are bred for the sake of their quills and feathers; for which they are stripped while alive, once in the year for their quills, and no less than five times for the feathers. The first plucking commences about Lady-day, for both; and the other four are between Lady-day and Michaelmas. It is said that, in general, the birds do not suffer very much from this operation; except cold weather sets in, which then kills great numbers of them. The old Geese submit quietly to the operation; but the young ones are very noisy and unruly. Mr. Pennant says, he once saw this business performed, and observed that even Goslings of only six weeks old were not spared—for their tails were plucked, as he was told, to inure them early to the custom. The possessors, except in this cruel practice, treat their birds with great kindness; lodging them very often even in the same room with themselves.

These Geese breed in general only once a-year, but if well kept they sometimes hatch twice in a season. During their sitting, each bird has a space allotted to it, in rows of wicker pens placed one above another; and the *gozzard*, or *goose-herd*, who has the care of them, drives the whole flock to water twice a-day, and, bringing them back to

their habitations, places every bird (without missing one) in its own nest.

It is scarcely credible what numbers of Geese are driven from the distant counties to London for sale; frequently two or three thousand in a drove; and, in the year 1783, one drove passed through Chelmsford, in its way from Suffolk to London, that contained above nine thousand.

However simple in appearance, or awkward in gesture, the Goose may be, it is not without many marks both of sentiment and understanding. The courage with which it protects its young and defends itself against the ravenous birds, and certain instances of attachment and even of gratitude which have been observed in it, render our general contempt of the Goose ill-founded. This I shall confirm by relating an instance of warm affection, which was communicated to the Comte de Buffon by a man of veracity and information. The following are nearly his own words:—"There were two Ganders, a gray and a white one, (the latter named *Jacquot*,) with three females. The males were perpetually contending for the company of these dames. When one or the other prevailed, it assumed the direction of them, and hindered its rival from approaching. He who was the master during the night, would not yield the next morning; and the two gallants fought so furiously, that it was necessary to be speedy in parting them. It happened one day, that being drawn to the bottom of the garden by their cries, I found them with their necks entwined, striking their wings with rapidity and astonishing force: the three females turned round, as wishing to separate them, but without effect: at last the white Gander was worsted, overthrown, and maltreated by the other. I parted them; happily for the white one, as he would otherwise have lost his life. Then the conqueror began screaming and gabbling, and clapping his wings; and ran to join his mistresses, giving each a noisy salute, to

which the three dames replied, ranging themselves at the same time round him. Meanwhile poor Jacquot was in a pitiable condition; and, retiring, sadly vented at a distance his doleful cries. It was several days before he recovered from his dejection; during which time I had sometimes occasion to pass through the court where he strayed. I saw him always thrust out from society; and whenever I passed, he came gabbling to me. One day he approached so near, and showed so much friendship, that I could not help caressing him, by stroking with my hand his back and neck; to which he seemed so sensible, as to follow me into the entrance of the court. Next day, as I again passed, he ran to me, and I gave him the same caresses; with which alone he was not satisfied, but seemed, by his gestures, to desire that I should introduce him to his mates. I accordingly led him to their quarter; and, upon his arrival, he began his vociferations, and directly addressed the three dames, who failed not to answer him. Immediately his late victor sprung upon Jacquot. I left them for a moment; the gray one was always the stronger: I took part with my Jacquot, who was under. I set him over his rival; he was thrown; I set him up again. In this way they fought eleven minutes; and, by the assistance which I gave him, he at last obtained the advantage, and got possession of the three dames. When my friend Jacquot saw himself master, he would not venture to leave his females, and therefore no longer came to me when I passed: he only gave me at a distance many tokens of friendship, shouting and clapping his wings; but would not quit his companions, lest, perhaps, his rival should take possession. Things went on in this way till the breeding season, and he never gabbled to me but at a distance. When his females, however, began to sit, he left them, and redoubled his friendship to me. One day, having followed me as far as the icehouse at the top of the park, the spot where I must

necessarily part with him in pursuing my path to a wood at half a league distance, I shut him in the park. He no sooner saw himself separated from me, than he vented strange cries. However, I went on my road; and had advanced about a-third of the distance, when the noise of a heavy flight made me turn my head: I saw my Jacquot, only four paces from me. He followed me all the way, partly on foot, partly on wing; getting before me and stopping at the cross-paths to see which way I should take. Our journey lasted from ten o'clock in the morning till eight in the evening; and my companion followed me through all the windings of the wood, without seeming to be tired. After this, he attended me every where, so as to become troublesome; for I was not able to go to any place without his tracing my steps, so that one day he even came to find me in the church. Another time, as he was passing by the rector's window, he heard me talking in the room; and, as he found the door open, he entered, climbed up stairs; and, marching in, gave a loud exclamation of joy, to the no small affright of the family.

"I am sorry, in relating such interesting traits of my good and faithful friend Jacquot, when I reflect that it was myself that first dissolved the pleasing connexion; but it was necessary for me to separate him from me by force. Poor Jacquot fancied himself as free in the best apartments as in his own: and after several accidents of this kind, he was shut up, and I saw him no more. His inquietude lasted above a year, and he died from vexation. He was become as dry as a bit of wood, as I am told; for I would not see him: and his death was concealed from me for more than two months after the event. Were I to recount all the friendly incidents between me and poor Jacquot, I should not for several days have done writing. He died in the third year of our friendship, aged seven years and two months."

THE BERNACLE GOOSE*.

Of all the marvellous productions which ignorance, ever credulous, has substituted for the simple and truly wonderful operations of nature, the most absurd, perhaps, and yet the most celebrated, is the assertion of the growth of this species of Goose, in a kind of shell, called *Lepas-anatifera*, (Goose-bearing shell,) on certain trees on the coasts of Scotland and the Orkneys, or on the rotten timbers of old ships.

Of the numerous writers who have mentioned and credited these circumstances, I shall give the accounts only of three, who all speak positively upon the subject. One of these, Maier, who has written a treatise expressly on this bird, says, that it certainly originates from shells: and, what is still more wonderful, Maier says, he opened an hundred of the *Goose-bearing* shells in the Orkneys, and found in all of them the rudiments of the bird completely formed.

Our countryman, Gerard, is another writer on this subject; his account of this wonderful transformation, I shall insert in his own words, which have been often quoted:—"What our eyes have seen, and our hands have touched,

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* Description. The usual weight of this bird is about five pounds. The bill is short and black, crossed with a flesh-coloured mark on each side. Part of the head, the chin, throat, the under parts of the body, and the upper tail-coverts are white; and the rest of the head and neck, and the beginning of the back, are black. The thighs are mottled. Round the knee the feathers are black, and the lower feathers of the back are the same, edged with white. The wing-coverts and scapulars are blue gray; the ends black, fringed with white at the tip. The rump, tail, and legs, are black.

Synonyms. Anas Erythropus. *Linnæus.*—Bernacle. *Buffon.*—Bernacle or Clakis. *Willughby.*—*Bew. Birds, v.* ii. *p.* 307.

we shall declare. There is a small island in Lancashire, called the *Pile of Foulders*, wherein are found broken pieces of old and bruised ships, some whereof have been cast thither by shipwrecks; also the trunks and bodies, with the branches of old and rotten trees, cast up there likewise; whereon is found a certain spume or froth, that in time breedeth unto certain shells, in shape like those of the muscle, but sharper pointed, and of a whitish colour, and the end whereof is fastened unto the inside of the shell, even as the fish of oysters and muscles are; and the other end is made fast unto the belly of a rude masse or lump, which in time cometh into the shape and form of a bird. When it is perfectly formed, the shell gapeth open, and the first thing that appeareth is the aforesaid lace or string; next cometh the legs of the bird hanging out; and, as it groweth greater, it openeth the shell by degrees, till at length it has all come forth, and hangeth only by the bill. In short space after it cometh to full maturitie, and falleth into the sea, where it gathereth feathers, and groweth to a fowle, bigger than a mallard, and lesser than a goose, having black legs, and bill or beake, and feathers black and white, spotted in such manner as our magpie, called in some places *pie-annes*, which the people of Lancashire call by no other name than Tree-goose; which place aforesaid, and all those places adjoyning, do so much abound therewith, that one of the best is bought for three-pence. For the truth hereof, if any doubt, may it please them to repair to me, and I will satisfy them by the testimonies of good witnesses."

The following is Sir Robert Murray's account of the Bernacle, inserted in the Philosophical Transactions:—"In the western islands of Scotland, the west ocean throws upon their shores great quantities of very large weather-beaten timber; the most ordinary trees are fir and ash. Being in the island of East, I saw lying upon

the shore, a cut of a large fir-tree, of about two feet and a half in diameter, and nine or ten feet long, which had lain so long out of the water, that it was very dry; and most of the shells that had formerly covered it were worn or rubbed off. Only on the parts that lay next the ground, there still hung multitudes of little shells: they were of the colour and consistence of muscle-shells. This *Barnacle-shell* is thin about the edges, and about half as thick as broad. Every one of the shells hath some cross-seams or sutures, which, as I remember, divide it into five parts.

"These parts are fastened one to another, with such a film as muscle-shells have.

"These shells are hung at the tree by a neck, longer than the shell, of a kind of filmy substance, round and hollow, and creased not unlike the wind-pipe of a chicken, spreading out broadest where it is fastened to the tree, from which it seems to draw and convey the matter which serves for the growth and vegetation of the shell, and little bird within it.

"In every shell that I opened I found *a perfect Sea-fowl:* the little bill, like that of a goose, the eyes marked; the head, neck, breast, wing, tails, and feet, formed; the *feathers* every where perfectly shaped, and blackish coloured; and the feet like those of other water-fowl, to my best remembrance."

Few subjects seem to have been more circumstantially related, or to rest on better evidence than the above: so natural to man is credulity, which passes all bounds, where the prodigy of an event takes firm hold of the imagination, and lays the understanding asleep. Such are part of the wild chimeras that have been retailed concerning the origin of the Bernacles; and as these fables once had great celebrity, I have been induced to relate them here, only to shew how contagious the errors of science are,

and how prone men are to the fascinations of the marvellous.

Bernacle Geese are not uncommon on many of the northern and western coasts of Great Britain in winter; but they are scarce in the south, and are seldom seen except in inclement seasons. They leave our island in February, and retire northward to breed.

THE CANADA GOOSE *.

The Canada Geese inhabit the more distant parts of North America. Immense flocks appear annually in the spring in Hudson's Bay, and pass more to the north to breed: and return southward in the autumn. The English at Hudson's Bay depend greatly on Geese, of this and other kinds, for their support; and in favourable years they often kill three or four thousand, which they salt and barrel. Their arrival is impatiently waited—it is the harbinger of the spring, and that month is named by the Indians the *Goose* Moon.

The English settlers send out their servants, as well as the Indians, to shoot these birds on their passage. It is in vain to pursue them; the men therefore form a row of huts made of boughs, at musquet-shot distance from each other, and placed in a line across the vast marshes of the country. Each hovel, or, as it is called, *stand*, is occupied by a

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* Description. This is a bird somewhat bigger than the tame goose. The bill, the head, and the neck, are black; and under the throat there is a broad white band, like a crescent. The breast, the upper part of the belly, the back, and wing-coverts, are dusky brown: the lower parts of the neck and belly, and upper tail-coverts, white. The quills and tail are black, and the legs dark lead-colour.

Synonyms. Anas Canadensis. *Linn.*—Oye à Cravate. *Buff.*—Canada Goose. *Latham.*

single person. These attend the flight of the birds; on the approach of which they mimic their cackling so well, that the Geese will answer, wheel, and come nearer the stand. The sportsman remains motionless, and on his knees, with his gun cocked the whole time; and does not fire till he can perceive the eyes of the Goose. He fires as they are going from him; then picks up another gun that lies by him, and discharges that also. The Geese that he has killed, he sets up on sticks, as if alive, to decoy others: he also makes artificial birds for the same purpose. In a good day (for they fly in very uncertain and unequal numbers) a single Indian will kill two hundred.—Notwithstanding each species of Goose has a different call, yet the Indians are admirable in their imitation of every one.

THE EIDER DUCK*.

In Iceland, the Eider Ducks generally form their nests on small islands not far from the shore; and sometimes even near the dwellings of the natives, who treat them with so much attention and kindness, as to render them

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* Description. This species is about twice the size of the common duck. Its bill is black, and the feathers of the forehead and cheeks advance far into the base. In the male, the feathers of part of the head, of the lower part of the breast, the belly, and the tail, are black, as are also the quill-feathers of the wings; and nearly all the rest of the body is white. The legs are green. The female is of a reddish brown, variously marked with black and dusky streaks. It is principally found in the western isles of Scotland, and on the coasts of Norway, Iceland, and Greenland.

Synonyms. Anas mollissima. *Linn.*—Oye à Duvet, ou Eider. *Buff.*—Eider, or Cuthbert Duck. *Willughby.*—Great Black and White Duck. *Edwards*—Colk. *Martin.*—Duntur Goose. *Sibbald.*—*Penn. Brit. Zool.* ii. *tab.* 95.—*Bew. Birds,* ii. *p.* 314.

nearly tame.—Sometimes two females will lay their eggs in the same nest, in which case they always agree remarkably well.

As long as the female is sitting, the male continues on watch near the shore; but as soon as the young ones are hatched he leaves them. The mother, however, remains with them a considerable time afterwards. It is curious to observe her manner of leading them out of the nest, almost as soon as they creep from the eggs. Going before them to the shore, they trip after her: and, when she comes to the water-side, she takes them on her back, and swims a few yards with them; when she dives, and the young ones are left floating on the surface, and are obliged to take care of themselves. They are seldom seen afterwards on land.

From these birds is produced the soft down so well known by the name of *eider* or *edder down*. This they pluck from their breasts in the breeding season, to line their nests; making with it a soft bed for their young. When the bird-catchers come to the nest, they carefully remove the female, and take away the superfluous down and eggs; after this they replace her. She then begins to lay afresh, and covers her eggs with new down, which she plucks from her body. When this is scarce, or she has no more left, the male comes to her assistance, and covers the eggs with his down, which is white, and easily distinguished from that of the female. When the young ones leave the nest, which is about an hour after they are hatched, it is once more plundered.

The best down, and the most eggs, are obtained during the first three weeks of their laying; and it has generally been observed, that the birds lay the greatest number of eggs in rainy weather.—One female, during the time of laying, generally yields half a pound of down; which, however, is reduced one-half after it is cleansed.

The eider-down is of such value when in its purity, that it is sold in Lapland for two rix-dollars a pound. It is extremely soft and warm; and so light and expansive, that a couple of handsful squeezed together, are sufficient to fill a down quilt,—a covering like a feather bed, used in those cold countries instead of a common quilt or blanket.

There are generally exported from Iceland, every year, by the Iceland Company at Copenhagen, 1500 or 2000 pounds weight of down, cleansed and uncleansed, exclusively of what is privately exported by foreigners. In the year 1750, this company sold so much in quantity of this article, as produced 3747 rix-dollars, besides what was sent directly to Gluckstadt.

The Greenlanders kill these birds with darts; pursuing them in their little boats, watching their course by the air bubbles when they dive, and always striking at them when they rise to the surface wearied. The flesh is valued as food, and their skins are made into warm and comfortable under-garments.

THE COMMON WILD DUCK *.

Wild Ducks frequent marshy places in many parts of this kingdom; but no where in greater plenty than in Lincolnshire, where prodigious numbers are annually taken in the decoys. In only ten decoys in the neighbourhood of Wainfleet, as many as thirty-one thousand two hundred have been caught in one season.

A decoy is a pond generally situated in a marsh, so as to be surrounded with wood or reeds, and, if possible, with

* Synonyms. Anas Boschas. *Linn.*—Canard Sauvage. *Buff.* —Common Wild Duck and Mallard, Common Tame Duck. *Willughby.*—*Penn. Brit. Zool.* ii. *tab.* 97.—*Bew. Birds*, ii. *p.* 327. 333.

both, to prevent the birds which frequent it from being disturbed. In this pond the birds sleep during the day; and, as soon as the evening sets in, the decoy *rises*, (as it is termed,) and the wild-fowl feed during the night. If the evening is still, the noise of their wings during flight is heard at a great distance, and is a pleasing, though somewhat melancholy, sound. The *decoy-ducks* (which are either bred in the pond-yard, or in the marshes adjacent; and which, although they fly abroad, regularly return for food to the pond, and mix with the tame ones that never quit the pond) are fed with hemp-seed, oats, and buckwheat.—In catching the wild birds, hemp-seed is thrown over the skreens to allure them forward into the *pipes;* of which there are several, leading up a narrow ditch, that closes at last with a *funnel-net.* Over these *pipes*, which grow narrower from the first entrance, there is a continued arch of netting, suspended on hoops. It is necessary to have a *pipe* for almost every wind that can blow, as on that circumstance it depends which *pipe* the fowl will take to. The decoy-man likewise always keeps to the leeward of the wild fowl; and burns in his mouth or hand a piece of *Dutch turf*, that his effluvia may not reach them; for, if they once discover by the smell that a man is near, they all instantly take flight. Along each *pipe* are placed *reed skreens*, at certain intervals, to prevent him from being seen till he thinks proper to show himself, or the birds have passed up the *pipe*, to which they are led by the trained Ducks, (who know the man's whistle,) or enticed by the hemp-seed. A dog is sometimes used; who is taught to play backward and forward between the skreens, at the direction of his master. The fowl, roused by this new object, advance towards it, while the dog is playing still nearer to the entrance of the *pipes;* till at last the decoy-man appears from behind the skreens,

and the wild-fowl, not daring to pass by him, and unable to fly off on account of the net covering the hoops, press forward to the end of the funnel-net, which terminates upon the land, where a person is stationed ready to take them. The trained birds return back past the decoy-man, into the pond again, till a repetition of their services is required. The general season for catching Wild Ducks, is from the latter end of October till February. There is a prohibition, by act of parliament, against taking them between the first of June and the first of October.

It was formerly customary to have, in the fens, an annual *driving* of the young Ducks, before they took wing. Numbers of people assembled, who beat a vast tract, and forced the birds into a net placed at the spot where the sport was to terminate. By this practice, (which, however, has been abolished by the legislature,) as many as a hundred and seventy-four dozen have been known to be taken in one day.

Wild Ducks are very artful birds. They do not always build their nests close to the water, but often at a good distance from it; in which case the female will take the young in her beak, or between the legs, to the water. They have been known sometimes to lay their eggs in a high tree, in a deserted magpie or crow's nest; and an instance has likewise been recorded of one being found at Etchingham, in Sussex, sitting upon nine eggs, in an oak, at the height of twenty-five feet from the ground: the eggs were supported by some small twigs laid crossways.

We are informed, that at Bold, in Lancashire, there were formerly great quantities of Wild Ducks, during the summer-time, in the ponds and moat near the Hall. These, it is said, used regularly to be fed. A man beat with a stone on a hollow wooden vessel, and immediately the Ducks would come round him. He scattered corn among

them, which they gathered with as much quietness and familiarity as might be expected from tame Ducks. As soon as they had finished their repast, they returned to their accustomed haunts.

Prodigious numbers of these birds are taken by decoys, in Picardy in France, particularly on the river Somme. It is customary there, to wait for the flock's passing over certain known places: when the sportsman, having ready a wicker cage containing a quantity of tame birds, lets out one at a time, which enticing the passengers within gun-shot, five or six are often killed at once by an expert marksman. They are now and then also taken by means of hooks baited with raw meat, which the birds swallow while swimming on the water.

Other methods of catching Ducks and Geese are peculiar to certain nations: one of these, from its singularity, seems worth mentioning. A person wades into the water up to the chin; and, having his head covered with an empty *calabash*, approaches the place where the Ducks are; which, not regarding an object of this kind, suffer the man freely to mix with the flock; when he has only to pull them by the legs under the water, one after another, and fix them to his belt, till he is satisfied; returning as unsuspected by the remainder, as when he first came among them.—This curious method is frequently practised on the river Ganges, the earthen vessels of the Gentoos being there used instead of calabashes. These vessels are what the Gentoos boil their rice in: after having been once used, they are looked upon as defiled, and are thrown into the river as useless. The duck-takers find them convenient for their purpose; as the Ducks, from seeing them constantly float down the stream, look upon them as objects not to be regarded.

The Chinese make great use of Ducks, but prefer as

food the tame to the wild ones. It is said that the major part of the Ducks in China are hatched by artificial heat. The eggs, being laid in boxes of sand, are placed on a brick hearth, to which is given a proper heat during the time required for hatching. The Ducklings are fed with craw-fish and crabs, boiled and cut small, and afterwards mixed with boiled rice: and in about a fortnight they are able to shift for themselves. The Chinese then provide them an old *step-mother*, who leads them where they are to find provender; being first put on board a *sampane*, or boat, which is destined for their habitation; and from which the whole flock, often to the amount of three or four hundred, go out to feed, and return at command. This method is used nine months out of the twelve, (for in the colder months it does not succeed;) and is so far from a novelty, that it may be every where seen, but more especially about the time of cutting the rice, and gleaning the crop; when the masters of the Duck-sampanes row up and down the river, according to the opportunity of procuring food, which is found in plenty, at the tide of ebb, on the rice plantations, as they are overflowed at high water. It is curious to observe how the Ducks obey their masters; for some thousands, belonging to different boats, will feed at large on the same spot, and on a signal given, will follow their leader to their respective sampanes, without a single stranger being found among them. This is still more extraordinary, if we consider the number of inhabited sampanes* on the Tigris; supposed to be no less than *forty thousand*, which are moored in rows close to each other, with here and there a narrow passage

* Sampane is a common name for a boat: the inhabited ones contain each a separate family, of which they are the only dwelling; and many of the Chinese pass almost their whole lives in this manner on the water.

for boats to sail up and down the river. The Tigris in Canton is somewhat wider than the Thames at London; and the whole river is there covered in this manner for the extent of at least a mile.

THE GARGANEY *.

A couple of these birds were for more than two months in the possession of M. Frisch, who has given to the world the following detail of their mode of living in this sort of insipient domestication. "I presented to them (he says) different seeds, and they would touch none; but scarcely had I set beside their water-trough, a bason filled with millet, than they both ran to it. At every bill-full which they took, each went to the water, and they carried as much of it in a short time, as completely to soak the millet; yet the grain was not moistened sufficiently to their mind, and I saw them busied in carrying millet and water to the ground of their pen, which was of clay, and when the bottom was softened and tempered enough, they began to dabble, and made a pretty deep cavity, in which they ate their millet, mixed with earth. I put them in a room, and they carried in the same way, though to little purpose, the millet and water to the deal floor. I led them on the grass, and they seemed to do nothing but dig

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* Description. This bird is somewhat larger than the teal. The bill is black. The crown and hind head are of a dusky brown. On the chin there is a large black spot; and, from the eye, a white streak passes to the back of the head. The cheeks and neck are of a pale purple and white. The breast is light brown, crossed with semi-circular bars of black; and the belly is white, having its lower parts varied with dusky specks. The legs are lead coloured.

Synonyms. Anas Querquedula. *Linn.*—Sarcelle. *Buff.*—Pied Wigeon. Summer Teal. *Montagu.*—Garganey. *Penn.*—*Penn. Brit. Zool.* ii. *tab.* 101.

for seeds, without eating the blades, or even earth-worms. They pursued flies, and snapped at them like ducks. When I delayed to give them their accustomed food, they called for it with a feeble hoarse cry, *quoak*, repeated every minute. In the evening they lay in the corners; and even during the day, when any person went near them, they hid themselves in the narrowest holes. They lived thus till the approach of winter, but when the severe cold set in, they both died suddenly."

OF THE AUK TRIBE IN GENERAL.*

The Auks are, for the most part, inhabitants of the Northern Ocean. They breed in holes, which they sometimes dig in the earth, or in the fissures of rocks; and lay but one egg. They generally rest in these holes during the night. Their feet are placed behind the centre of gravity, which makes some of the species stand with their heads almost upright. In their manners they generally appear very stupid.

THE PUFFIN AUK †.

The Puffin Auks appear in some parts of our coast in the beginning of April. Their first employment is the

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* The bills of these birds are thick, convex, and except in a very few species, compressed on the sides, and crossed with transverse furrows. The nostrils are linear, and situated parallel to the edge of the bill. They have three toes, all placed forward.

† Description. This bird is about twelve inches in length. The bill is an inch and a quarter long, much compressed on the sides; and nearly an inch and a half deep at the base, from whence both mandibles tend to a point, which is a little curved: across these there are oblique furrows: the half of the bill next the point is red;

forming of burrows in the earth or sand, for their young ones. This is the task of the males, who are so intent on the business, as to suffer themselves at that time to be taken with the hand. Some, where there is opportunity, save themselves the trouble of forming holes, by dispossessing the rabbets of theirs.

The females lay one white egg each; and the males as well as females perform the office of sitting, relieving each other when they go to feed. The young ones are hatched in the beginning of July. Mr. Pennant has asserted, that their affection for their young is so great, that, when "laid hold of by the wings, they will give themselves the most cruel bites on any part of their body that they can reach, as if actuated by despair; and, when released, instead of flying away, they will often hurry again into their burrows." When I was in Wales, in the summer of 1801, I took several of them out of the holes that had young ones in them, for the purpose of ascertaining this fact. They bit *me*, with great violence, but none of them seized on any parts of their own body: a few on being released ran into the burrows; but not always into those from whence I had taken them. If it was more easy for them to escape into a hole than raise themselves into the air, they did so; but if not, they ran down the slope of the hill in which their burrows were formed, and flew away.—The noise they make when with their young, is a singular kind of humming, much resembling that produced by the large

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and that next the base blue-gray. The top of the head, the hind part of the neck, and all the upper parts of the plumage, are black; which colour passes also round the throat like a collar. The sides of the head, the chin, and all the under parts are white. The legs are orange.

SYNONYMS. Alca Arctica. *Linn.*—Macareux. *Buff.*—Puffin. *Penn.*—Coulterneb. *Willughby.*—Bowger. *Martin.*—*Bew. Birds*, i. *p.* 168.

wheels used for the spinning of worsted. On being seized, they emitted this noise with greater violence; and from its being interrupted by their struggling to escape, it sounded not much unlike the efforts of a dumb man to speak.

The young ones are entirely covered with a long blackish down; and, in shape, are altogether so different from the parent birds, that no one could at first sight suppose them of the same species. Their bill also is long, pointed, and black, with scarcely any marks of furrows.

The re-migration of the Puffins takes place about the middle of August; when not a single one remains behind, except the unfledged young of the latter hatches; these are left a prey to the peregrine falcon; which watches the mouth of the holes for their appearance, compelled, as they must soon be, by hunger, to come out.

The food of these birds is sprats or sea-weeds, which makes them excessively rank; yet the young ones are pickled and preserved with spices, and by some people are much admired.

The Kamtschadales and Kuriles wear the bills of Puffins fastened about their necks with straps. The priests put them on with a proper ceremony, and the persons are supposed to be always attended by good fortune, so long as they retain them there.

It appears certain, that Puffins do not breed till their third year. The proof of this arises from the observations made by the Rev. Hugh Davies, of Aber, in Caernarvonshire, on the different forms of the bills, among the thousands of this species which, in the year 1776, were wrecked on the Welsh coast, near Criccieth. He saw the beach for miles, covered with dead birds; among which were Puffins, razor-bills, guillemots, and kittiwakes; as well as tarrocks, gannets, wild geese, bernacles, brent geese, scoters, and tufted ducks. This unusual accident he con-

jectured to be owing to a severe storm of frost that had overtaken both the migrants and re-migrants. From the Puffins he here found, he remarked the different forms of their bills in their several periods of life. Those that he supposes to have been of the first year, were small, weak, destitute of any furrow, and of a dusky colour; those of the second year were considerably stronger and larger, lighter-coloured, and with a faint rudiment of a furrow at the base; those of the more advanced years had vivid colours, and were of great strength.

THE PERROQUET AUK *.

This species is found in flocks in Kamtschatka, in the isles towards Japan, and on the western shores of America. In the nights they harbour in the crevices of rocks. Like most of the tribe, they are indolent and stupid birds, as the following ridiculous method of catching them sufficiently proves:—One of the natives places himself in the evening among the rocks, under a loose garment of fur, of a particular shape, with large open sleeves, when the birds, returning to their lodging-places at dusk, run under the skirts and up the arm-holes, in order to shelter themselves during the night; the man concealed beneath kills

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* DESCRIPTION. This bird is about the size of a blackbird. The bill is much compressed, and convex both above and beneath. The nostrils are placed in the middle of it, and pervious, and above these there is a furrow that reaches from the base to the middle. The colour of the bill is deep red. From the hinder part of the eye springs a slender tuft of white feathers, which hangs loosely on the neck. The upper parts of the plumage, and the neck, are black, and the under parts, from the breast, white. The wings are short. The legs are of a dirty yellow, and the webs of the feet brown.

SYNONYMS. Alca Psitticula. *Latham.*—Le Pingouin Perroquet. *Sonnini's Edit. of Buffon.*

them as fast as they enter, and, by this means, as many are often taken in one evening as he can carry away. Their stupidity occasions them likewise very often to fly on board a ship at such times, mistaking it for a roosting-place; by which navigators have sometimes been taught to avoid the danger of approaching too near the land, either in the evenings, or on the approach of storms.

*OF THE PENGUINS IN GENERAL**.

The Penguins seem to hold the same place in the southern parts of the world, that the auks do in the northern; being only found in the temperate and frigid zones of the southern hemisphere. They resemble them in almost all their habits; walking erect, and being very stupid. They also resemble them in their colour, and their mode of feeding, and of making their nests. From the extreme shortness of their wings, they are altogether incapable of flying. They swim with great swiftness; and are fortified against the effects of a long continuance in the cold water, by an abundance of fat. They hatch their young ones in an erect position; and cackle like geese, but in a hoarser tone.

* Their bill is strong, straight, furrowed on the sides, and bent towards the point. The nostrils are linear, and placed in the furrows. The tongue is covered with strong spines, pointing backward. The wings are small, not unlike fins, covered with no longer feathers than the rest of the body. The body is clothed with thick, short feathers; which have broad shafts, and are placed almost as compactly as scales. The legs are short and thick, situated backwards, near the tail. The toes are four, all placed forward; the interior ones are loose, and the rest webbed.—The tail is very stiff, consisting of broad shafts scarcely webbed.

THE CRESTED PENGUIN*.

The Crested Penguins are inhabitants of several of the South Sea islands. They have the names of Hopping Penguins, and Jumping Jacks, from their action of leaping quite out of the water, sometimes three or four feet, on meeting with any obstacle in their course; and, indeed, they frequently do this without any other apparent cause than the desire of advancing by that means. All the Penguins, while swimming, sink above the breast, the head and neck only appearing out of the water; and they row themselves along with their finny wings as with oars.

This species seem to have a greater air of liveliness in their countenance than almost any of the others: yet they are very stupid birds, and so regardless of their own safety, as even to suffer any person to lay hold of them. When provoked, they erect their crest in a very beautiful manner; and we are told, that, when attacked by our voyagers, they ran at them in flocks, pecked their legs, and spoiled their clothes. "When the whole herd was beset (says Mr. Forster, in his account of one of the South Sea islands,) they all became very bold at once; and ran

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* Description. This beautiful bird is nearly two feet in length. The bill is red, and three inches long; the upper mandible curved at the end, and the lower obtuse. The head, neck, back, and sides, are black. Over each eye there is a stripe of pale yellow feathers, which lengthens behind into a crest about four inches long; this is decumbent, but can be erected at pleasure: the feathers of the head above this are longer than the rest, and stand upward. The wings are black on the outside; but the edges and the inside are white. The legs are orange-coloured, and the claws dusky. The female is destitute of crest.

Synonyms. Aptenodytes Chrysocome. *Linn.*—Manchot Sauteur. *Buff.*—Crested Penguin. *Latham.*

violently at us, biting our legs, or any part of our clothes."

Their sleep is extremely sound; for Dr. Sparrman, accidentally stumbling over one of them, kicked it several yards without disturbing its rest; nor was it until after being repeatedly shaken that the bird awoke.

They are very tenacious of life. Mr. Forster left a great number of them, apparently lifeless from the blows they had received, while he went in pursuit of others; but they all afterwards got up and marched off with the utmost gravity.

They form their nests among those of the pelecans, and live in tolerable harmony with them. The female generally lays only a single egg. Their nests are holes in the earth; which they easily form by means of their bills, throwing back the dirt with their feet.—They are often found in great numbers on the shores where they have been bred.

Penrose mentions a species of Penguin that resorts to certain places of the Falkland Islands in incredible numbers, and lays its eggs.—These places, he tells us, had become by its long residence entirely freed from grass; and he has given to them the name of *towns*. The nests were composed of mud, raised into hillocks, about a foot high, and placed close to each other. "Here, (he says,) during the breeding season, we were presented with a sight that conveyed a most dreary, and, I may say, most awful idea of the desertion of the islands by the human species:—a general stillness prevailed in these towns: and whenever we took our walks among them in order to provide ourselves with eggs, we were regarded, indeed, with side-long glances, but we carried no terror with us.

"The eggs are rather larger than those of a goose, and are laid in pairs. When we took them once, and sometimes twice in a season, they were as often replaced by the

birds; but prudence would not permit us to plunder too far, lest a future supply in the next year's brood might be prevented."

OF THE PETREL TRIBE IN GENERAL.*

These birds frequent only the ocean, and are seldom to be seen on shore, except during the breeding season. Their legs are bare of feathers a little above the knee. They have the singular faculty of spouting from their bills, to a considerable distance, a large quantity of pure oil; which they do, by way of defence, into the face of any one that attempts to annoy them. This oil has been frequently used in medicine, and, some writers say, with success.

THE STORMY PETREL†, AND NORFOLK ISLAND PETREL‡.

Ranging over the expanse of the ocean, and frequently at a vast distance from land, the former of these birds is enabled to brave the utmost fury of the storms. Even in the most

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* The bill is somewhat compressed; the mandibles are equal in length, and the upper one is hooked at the point. The nostrils form a truncated cylinder, lying over the base of the bill. The feet are webbed, and, in the place of a hind toe, have a spur pointing downwards.

† DESCRIPTION. The Stormy Petrel is not larger than a swallow; and its colour is entirely black, except the coverts of the tail, the tail itself, and the vent feathers, which are white. Its legs are long and slender.

SYNONYMS. Procellaria pelagica. *Linn.*—Oiseau de Tempête. *Buff.*—Petrel. *Dampier.*—Storm Finch, or Little Petrel. Small Petrel. *Edwards.*—Stormy Petrel. *Penn.*—*Penn. Brit. Zool.* ii. *tab.* 91.

‡ DESCRIPTION. The length of the Norfolk Island Petrel is about sixteen inches. The bill is about an inch and a half long, black, and much hooked at the end. The head as far as the eyes, and the chin,

tempestuous weather is it frequently observed by the mariners, skimming with almost incredible velocity, along the hollows of the waves, and sometimes over their summits. It often follows vessels, in great flocks, to pick up any thing that is thrown overboard; but its appearance is always looked upon by the sailors as the sure presage of stormy weather in the course of a few hours after. It seems to seek for protection from the fury of the wind in the wake of the vessels; and for the same reason it very probably is, that it often flies along between two surges.

The nests of these birds are found in the Orkney Islands, under loose stones, in the months of June and July.—They live chiefly on small fish, and, although mute by day, are very clamorous during the night.

The inhabitants of the Feroe Islands are said to draw a wick through the bird, which, being lighted at one end, serves for a candle, the flame being fed by the fat and oil of the body.

The other species of Petrel here mentioned, are found in Norfolk Island in great plenty, where they burrow in the sand like rabbets. On Mount Pit, the highest land in the island, the ground was as full of holes as a rabbet-warren, and an immense number of aquatic birds burrowed and built their nests in them. These, during the day, were at sea; but as night approached they returned in vast flocks. The settlers lighted small fires every night on this mount, about which the birds dropped as fast as the people could pick them up and kill them; for the wings of sea birds are generally so long as to prevent their rising till they can

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are mottled in waves of brown and white: the rest of the body is of a sooty brown above, and a deep ash-colour beneath. The wings, when closed, exceed the tail by an inch. The legs are of a pale yellow, and part of the toes and webs black.

SYNONYMS. Procellaria Alba. *Linn.*—White-breasted Petrel. *Latham.*—Norfolk-Island Petrel. *Cook's Voyage.*

ascend some small elevation. Hunter says that 18,000 birds of different species were killed in the space of about six weeks.

OF THE ALBATROSS TRIBE.

There are but four species of Albatross; of which three are found principally in the seas of hot climates, and the fourth is confined to those within the Antarctic Circle. Their bill is straight: the upper mandible hooked at the point; and the lower truncated, or appearing as if cut off. The nostrils are oval, wide, prominent, and lateral; the tongue is very small; and the feet have each three toes, all placed forward.

THE WANDERING ALBATROSS, OR MAN-OF-WAR BIRD *.

These birds are found in most seas, but chiefly in those within the Tropics: they are, however, often seen about the Cape of Good Hope; and, towards the end of July, collect in great numbers in Kamtschatka, and the seas which separate that part of Asia from America.

They are exceedingly voracious, and feed on various species of fish and molluscæ. The shoals of flying-fish, when persecuted by their enemies of the deep, make their appearance for a short flight in the air, and suffer greatly from the voracity of these birds. They also often pursue

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* DESCRIPTION. In size these birds are sometimes as large as a swan. Their general colour is white, the upper parts marked with black lines. The quill-feathers are black; and the tail is rounded, and of a lead colour. The bill is of a pale yellow, and the legs are flesh-coloured.

SYNONYMS. Diomedia exulans. *Linn.*—Albatross. *Buff.*—Wandering Albatross. *Latham.*—Man-of-war Bird. *Albin.*

the shoals of salmon into the mouths of large rivers; and so gorge themselves as, notwithstanding their otherwise extraordinary powers of flight, to be prevented by their weight and consequent stupidity even from rising.

In the West Indies the appearance of these birds is said to foretel the arrival of ships; which indeed is sometimes true, and arises from a very natural cause. They always fish in fine weather: so that when the wind is boisterous out at sea, they retire into the harbours, where they are protected by the land; and the same wind that blows them in, oftentimes brings also vessels to seek a retreat from the storm.

Their voice resembles very much the braying of an ass. In South America they build their nests about the end of September: these are formed of earth, on the ground, and are from one to three feet high. The eggs are as large as those of the goose, and have the singular property of their white not becoming hard by boiling. When attempted to be seized, these birds make a vigorous defence with their bills.

Many of the Indians set a high value on their feathers; which they use for arrows, as they last much longer than those of any other birds. The natives of the South Sea Islands watch the arrival of the Man-of-war Birds at the rainy season; and, when they observe them, they launch from their canoes a light float of wood into the water, baited with a small fish. When one of the birds approaches it, a man stands ready with a pole, about eighteen feet in length; and on its pouncing, he strikes at it, and seldom fails of bringing it down. If, however, he misses his aim, he must wait for some other bird; for that will no more be tempted to approach. The cock birds are reckoned the most valuable; and sometimes even a large hog is given in exchange for one of these.

The inhabitants of Kamtschatka make buoys to their

nets, of the intestines of the Man-of-war Birds, which they blow up like bladders. They also make tobacco-pipes and needle cases, of the bones of the wings; and use them likewise for heckling the grass, which serves them instead of flax. The flesh is very hard and dry.

OF THE PELECAN TRIBE IN GENERAL.*

The Pelecans are gregarious; and, in general, remarkable for their extreme voracity. They are very expert in seizing fish with their long and apparently unwieldy bills; and many of the species are rendered of use to mankind, by being trained to fishing. In general, they keep out far at sea; but some of them are found occasionally in the interior parts of continents.

THE WHITE OR GREAT PELECAN†.

The bag in the lower mandible of the bill of this bird, is one of the most remarkable members that is found in the structure of any animal. Though it wrinkles up nearly into the hollow of the chap, and the sides, to which it is attached, are not (in a quiescent state) above an inch asunder, it may be extended to an amazing capacity; and when the bird has fished with success, its size is almost in-

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* In this tribe the bill is long and straight; and the end either hooked, or sloping. The nostrils are placed in the furrow that runs along the sides of the bill, and, in most of the species, are not distinguishable. The face, except in two species, is destitute of feathers. The gullet is naked, and capable of great extension. The number of toes is four, and these are all webbed together.

† DESCRIPTION. This Pelecan, when full grown, is larger than a swan. The bill is about sixteen inches long, and the skin between the sides of the lower mandible is very flaccid and dilatable, extending to

credible. It will contain a man's head with the greatest ease; and, it has been said that even a man's leg, with a boot on, has been hidden in one of these pouches. In fishing, the Pelecan fills this bag, and does not immediately swallow his prey; but, when this is full, he returns to the shore to devour at leisure the fruits of his industry. He is not long in digesting his food; for he has generally to fish more than once in the course of a day.

At night, when the toils of the day are over, these birds, which are lazy and indolent when they have glutted themselves with fish, retire a little way on the shore to take their rest for the night. Their attitude in that state is with the head resting against the breast. They remain almost motionless till hunger calls them to break off their repose; thus passing nearly the whole of their life in eating and sleeping. When thus incited to exertion, they fly from the spot, and, raising themselves thirty or forty feet above the surface of the sea, turn their head with one eye downward, and continue to fly in that position till they see a fish sufficiently near the surface. They then dart down with astonishing swiftness, seize it with unerring certainty, and store it up in their pouch. Having done this, they rise again, and continue the same actions till they have procured a competent stock.

Whence it was that the antients attributed to this stupid bird the admirable qualities and parental affections for

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eight or nine inches down the neck; this is bare of feathers, and is capable of containing many quarts of water. The tongue is so small as to be scarcely distinguishable. The sides of the head are naked; and on the back of the head there is a kind of crest. The whole plumage is whitish, suffused with a pale blush-colour; except some parts of the wings, which are black. The legs are lead-coloured, and the claws gray.

SYNONYMS. Pelecanus Onocrotalus. *Linn.*—Pelican. *Buff.*—Great White Pelecan. *Latham.*—Great Pelecan. *Penn.*

which it was celebrated amongst them, I can scarcely guess; unless, struck with its extraordinary figure, they were desirous of supplying it with propensities equally extraordinary. For it is, in truth, one of the most heavy, sluggish, and voracious, of all the feathered tribes; and but ill fitted to take those vast flights, or to make those cautious provisions, which have been related of it.

It is, however, by no means destitute of natural affection, either towards its own young ones, or towards others of its own species. Clavigero, in his History of Mexico, says, that sometimes the Americans, in order to procure a supply of fish without any trouble, cruelly break the wing of a live Pelecan, and, after tying the bird to a tree, conceal themselves near the place. The screams of the miserable bird attract other Pelecans to the place, which, he assures us, eject a portion of the provisions from their pouches, for their imprisoned companion. As soon as the men observe this, they rush to the spot, and, after leaving a small quantity for the bird, carry off the remainder.

The female feeds her young ones with fish macerated for some time in her bag. Labat informs us, that he took two Pelecans when very young, and tied them by the leg to a post stuck into the ground; and he had the pleasure of seeing one of the old ones come for several days to feed them, remaining with them the greatest part of the day, and passing the night on the branch of a tree that hung over them. By this means they all three became so familiar as to suffer themselves to be handled; and the young ones always took the fish that he offered to them, storing it first in their bag, and then swallowing it at leisure.

The Pelecan has often been rendered domestic; and this writer assures us, that he saw one among the Americans so well trained, that it would, at command, go off in the morning, and return before night with its pouch distended with

prey; part of which it was made to disgorge, and the rest it was permitted to retain for its trouble.

According to the account of Faber, a Pelecan was kept in the court of the Duke of Bavaria above forty years. He says that its seemed fond of being in the company of mankind; and when any one sang or played on an instrument, it would stand perfectly still, turn its ear to the place, and, with its head stretched out, seem to pay the utmost attention. We are told that the emperor Maximilian had a tame Pelecan that lived above eighty years, and always attended his soldiers when on their marches. M. de Staint Pierre mentions his having seen, at the Cape Town, a large Pelecan playing close to the custom-house with a great dog, whose head she often, in her frolic, took into her enormous beak.

When a number of Pelecans and Corvorants are together, they are said to have a very singular method of taking fish. They spread into a large circle, at some distance from land; and the Pelecans flap with their extensive wings above, on the surface, while the corvorants dive beneath: hence the fish contained within the circle are driven before them towards the land; and, as the circle lessens by the birds coming closer together, the fish at last are brought into a small compass, when their pursusers find no difficulty in filling their bellies. In this exercise they are often attended by various species of gulls, who likewise obtain a share of the spoil.

THE CORVORANT*.

These birds are common on many of our sea-coasts; building their nests on the highest parts of the cliffs, that

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* Description. The weight of the Corvorant is about seven pounds; and its size (though it is much more slender) about that of

hang over the sea; and laying three or more pale green eggs, about the size of those of a goose. In winter they disperse along the shores, and visit the fresh waters, where they commit great depredations among the fish. They are remarkably voracious; having a most rapid digestion, promoted, perhaps, by the infinite quantity of small worms that fill their intestines. They are very wary, except when they have filled their stomach; when they become so stupid, that it is frequently an easy thing to take them in a net, or even by means of a noose thrown over their heads. In the year 1798, I saw one that had been seized whilst perched on the top of a rock just behind the town of Caernarvon; and in the year 1793, one of them was observed sitting on the vane of St. Martin's steeple, Ludgate Hill, London, and was shot from thence in the presence of a great number of people.

Their smell, when alive, is excessively rank and disagreeable; and their flesh is so disgusting, that even the Greenlanders, among whom they are very common, will scarcely eat them.

It is no uncommon thing to see twenty of these birds together on the rocks of the sea-coast, with extended wings, drying themselves in the wind:—in this position they remain sometimes nearly an hour, without once closing their wings, and as soon as these are sufficienly dry to enable the feathers to imbibe the oil, they press this substance from the receptacle on their rumps, and dress the

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a goose. The general colour of the body is black: but the male has the feathers under the chin white, and likewise a short, loose, pendent crest; and part of the wings is sometimes of a deep and glossy blue green. The bill is dusky; and in the lower mandible there is a naked yellowish pouch. The legs are short, strong, and black.

Synonyms. Pelecanus Carbo. *Linn.*—Le Cormoran. *Buff.*—Sea Crow. *Montagu.*—*Bew. Birds*, ii. p. 381.

feathers with it. It is only in one particular state that the oily matter can be spread on them; when they are somewhat damp: and the instinct of the birds teaches them the proper moment.

The skins of Corvorants are very tough; and are used by the Greenlanders, when sewed together and put into proper form, for garments. And the skin of the jaws, like that of others of this tribe, serves that people for bladders to buoy up their smaller kinds of fishing darts.

Corvorants were, formerly, sometimes trained in this country, for the purpose of catching fish. They were kept with great care in the house: and when taken out for fishing, they had round their neck a leather thong, to prevent them from swallowing their prey: they were also hooded till brought to the water's edge. It appears that King Charles the First had an officer in his household entitled Master of the Corvorants.

THE GANNET, OR SOLAN GOOSE*.

These birds are insatiably voracious, and yet they are somewhat particular in their choice of prey; disdaining to eat any food worse than herrings or mackrel, unless in great want.. No fewer than one hundred thousand Gannets are supposed to frequent the rocks of Saint Kilda; of which, including the young ones, at least twenty thousand

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* DESCRIPTION. The Gannet is somewhat more than three feet in length, and weighs about seven pounds. The bill is six inches long; straight almost to the point, where it is a little bent: its edges are irregularly jagged, for the better securing of its prey; and about an inch from the base of the upper mandible there is a sharp process pointing forward. The general colour of the plumage is dirty white, with a cinereous tinge. Surrounding each eye there is a naked skin of fine blue: from the corner of the mouth a narrow slip of naked black skin extends to the hind part of the head; and beneath the

are annually killed by the inhabitants for food. Allowing that these birds remain in this part of the country about six months in the year, and that each bird destroys five herrings in a day, which is considerably less than the average, we have at least ninety millions of these, the finest fishes in the world, devoured annually by a single species of Saint Kilda Birds.

The Gannets frequent nearly all the Hebrides, and are sometimes seen on the Cornish coast; but they seldom occur in any other parts of Europe. They are migratory; and first appear in the above islands about the month of March: they remain till August, or September.

They build their nests on the highest and steepest rocks they can find near the sea; laying, if undisturbed, only one egg in the year; but if that be taken away, they will lay another, and if that is also taken, a third, but never more in the same season. The egg is white, and is rather smaller than that of the goose. The nests are composed of grass, sea plants, or any refuse fitted for the purpose, that they find floating on the water. The young, during the first year, differ greatly from the old ones; being of a dusky hue, and speckled with numerous triangular white spots. While the female is employed in incubation, the male supplies her with food; and the young birds take their food from the pouch of the parent, with their bill, as with a pincer.

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chin there is a pouch, capable of containing five or six herrings. The neck is long; the body flat, and very full of feathers. On the crown of the head, and the back part of the neck, is a small buff-coloured space. The quill feathers, and some other parts of the wings, are black; as are also the legs, except a fine pea-green stripe in their front. The tail is wedge-shaped, and consists of twelve sharp-pointed feathers.

SYNONYMS. Pelecanus Bassanus. *Linn.*—Fou de Bassan. *Buff.*—Soland Goose. *Willughby.*—Solan Goose. *Martin.*—Gannet. *Penn.*—*Penn. Brit. Zool.* ii. *tab.* 103.—*Bew. Birds*, ii. *p.* 393.

These birds, when they pass from place to place, unite in small flocks of from five to fifteen; and, except in very fine weather, fly low, near the shore, but never pass over it; doubling the capes and projecting parts, and keeping nearly at an equal distance from the land. During their fishing they rise high into the air, and sail aloft over the shoals of herrings or pilchards, much in the manner of kites. When they observe the shoal crowded thick together, they close their wings to their sides, and precipitate themselves, head foremost, into the water, dropping almost like a stone. Their eye in this act is so correct, that they never fail to rise with a fish in their mouth.

Mr. Pennant says, that the natives of Saint Kilda hold these birds in much estimation, and often undergo the greatest risks to obtain them. Where it is possible, they climb up the rocks which they frequent, and in doing this they pass along paths so narrow and difficult, as, in appearance, to allow them barely room to cling, and that too at an amazing height over a raging sea. Where this cannot be done, the fowler is lowered by a rope from the top; and, to take the young ones, oftentimes stations himself on the most dangerous ledges. Unterrified, however, he ransacks all the nests within his reach; and then, by means of a pole and his rope, moves off to other places to do the same. We are told also, that to take the old birds, the inhabitants tie a herring to a board, and set it afloat; so that, by falling furiously upon it, the bird may break its neck in the attempt. This, however, is unlawful; for the fastening of herrings thus to planks at sea, in order to catch the Soland Goose, is forbidden under a severe penalty.

Some years ago one of these birds was flying over Penzance, in Cornwall; when seeing some pilchards lying on a fir plank, in a place for curing these fish, it darted itself down with so much violence, as to strike its bill quite

through an inch-and-a-quarter plank, and kill itself on the spot.

The Gannet seems to attend the herrings and pilchards during their whole progress round the British Islands; and sometimes migrates in quest of food as far southward as the mouth of the Tagus, being frequently seen off Lisbon during the month of September. From this time till March, it is not well known what becomes of these birds.

The young birds, and the eggs, alone, are eatable; the old ones being tough and rancid.

THE BOOBY*.

This and some other species have been denominated Boobies from their excessive stupidity; their silly aspect; and their habit of continually shaking their head and shivering, when they alight on the yards or rigging of vessels, where they often suffer themselves to be taken by the hand. In their shape and organization they greatly resemble the corvorants.

The Boobies have an enemy of their own tribe, that perpetually harasses them. This is the Frigate Pelecan †; which rushes upon them, pursues them without intermission, and obliges them, by blows with its wing and bill, to surrender the prey that they have taken, which it instantly seizes and swallows. Catesby thus describes the skirmishes

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* Description. The Booby is about two feet six inches in length. Its bill is nearly four inches and a half long; toothed on the edges, and of a gray colour. A space round the eyes, and on the chin, is naked. The head, neck, upper parts of the body, wings, and tail, are ash-coloured brown: and the breast, under parts, and thighs, white. The legs are pale yellow, and the claws gray.

Synonyms. Pelecanus Sula. *Linn.*—Fou, *Buff.*—Booby. *Catesby.*

† *Pelecanus aquilus* of Linnæus.

of the Booby and his enemy, which he calls the *pirate;* "The latter (he says) subsists entirely on the spoils of others, and particularly of the Booby. As soon as the Pirate perceives that he has caught a fish, he flies furiously against it, and obliges it to dive under water for safety: the Pirate, not being able to follow it, hovers above the water till the Booby is obliged to emerge for respiration, and then attacks it again while spent and breathless, and compels it to surrender its fish: it now returns to its labours, and has to suffer fresh attacks from its enemy." Leguet says, that the Boobies repair at night to repose on the island of Rodrigue; and the Frigate, which is a large bird, and is so called from the rapidity of its flight, waits for them on the tops of the trees: it rises very high, and darts down upon them like a hawk upon his prey, not to kill them, but to make them disgorge. The Booby, struck in this way by the Frigate, throws up a fish, which the latter snatches in the air. Oftentimes the Booby screams, and discovers a reluctance to part with its booty; but the Frigate scorns its cries, and, rising again, descends with such a blow as to stun the poor bird, and compel an immediate surrender.

Dampier gives us a curious account of the hostilities between what he calls Man-of-war Birds*, and the Boobies, in the Alcrane Islands, on the coast of Yucatan. "These birds were crowded so thick, that I could not (he says) pass their haunt without being incommoded by their pecking.—I observed that they were ranged in pairs; which made me presume that they were male and female. When I struck them, some flew away; but the greater number remained, and would not stir, notwithstanding all I could do to rouse them. I remarked also, that the Man-of-war Birds and the Boobies always placed sentinels over their

* These are, most probably, the Frigate Pelecans just mentioned.

young ones, especially when they went to sea for provisions. Of the Man-of-war Birds, many were sick or maimed, and seemed unfit to procure their subsistence. They lived not with the rest of their kind; being either expelled from society, or separated by choice, and were dispersed in different places, probably that they might have a better opportunity of pillaging. I once saw more than twenty, on one of the islands, sally out from time to time into the open country, in order to carry off booty, and return again almost immediately. When one of them surprised a young Booby that had no guard, he gave it a violent peck on the back to make it disgorge; which it did instantly: it cast up one or two fish about the bulk of one's hand, which the old Man-of-war Bird swallowed. The vigorous ones play the same game with the old Boobies which they find at sea. I saw one myself, which flew right against a Booby; and, with one stroke of its bill, made him deliver up a fish that he had just swallowed. The Man-of-war Bird darted so rapidly, as to catch this fish in the air before it could fall into the water."

THE FISHING CORVORANT *.

The following account of this Chinese bird, by Sir George Staunton, is the most authentic of any that has yet been given to us:

"The embassy (he says) had not proceeded far on the southern branch of the Imperial Canal, when they arrived

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* Description. This bird resembles in many respects the common corvorant. It has been thus described: "Brown Pelecan or Corvorant, with white throat, the body whitish beneath, and spotted with brown; the tail rounded; the irides blue; and the bill yellow."

Synonym. Pelecanus Sinensis. *Turton's Linn.*

in the vicinity of a place where the Leu-tze, or famed fishing-bird of China, is bred, and instructed in the art and practice of supplying his owner with fish in great abundance.

"On a large lake close to this part of the canal, and to the eastward of it, are thousands of small boats and rafts built entirely for this species of fishing. On each boat or raft are ten or a dozen birds, which, at a signal from the owner, plunge into the water; and it is astonishing to see the enormous size of the fish with which they return, grasped within their bills. They appear to be so well trained, that it did not require either ring or cord about their throats, to prevent them from swallowing any portion of their prey, except what the master was pleased to return to them for encouragement and food. The boat used by these fishermen is of a remarkably light make; and is often carried to the lake, together with the fishing birds, by the men who are there to be supported by it."

The Comte de Buffon says, that they are regularly educated to fishing, as men rear spaniels or hawks, and one man can easily manage a hundred. The fisherman carries them out into a lake, perched on the gunnel of his boat; where they continue tranquil, and wait for his orders with patience. When arrived at the proper place, on the first signal, each flies a different way, to fulfil the task assigned to it. It is pleasant on this occasion to behold with what sagacity they portion out the lake or canal where they are upon duty. They hunt about, they plunge, they rise a hundred times to the surface, until they have at last found their prey. They then seize it with their beak by the middle, and carry it to their master. When the fish is too large, they assist each other; one seizes it by the head, and another by the tail, and in this manner carry it to the boat together. There the boatman stretches out one of his long oars; on which they perch, and, being delivered

of their burthen, again fly off to pursue their sport. When they are wearied, he suffers them to rest awhile; but they are never fed until their work is over. In this manner they supply a very plentiful table; but still their natural gluttony cannot be reclaimed even by education. They have always a string fastened round their throats while they fish, for the purpose of preventing them from swallowing their prey; as they would otherwise at once satiate themselves, and discontinue their pursuit.

THE RED-BACKED PELECAN *.

Mr. Lewis, a navy surgeon, described to Dr. Latham the mode in which a Red-backed Pelecan, that had been brought up tame, stowed its food into its pouch. Like others of its race, it was very voracious. A number of different sized fishes were laid before it on the ground; it first attempted to take up one that weighed ten pounds, but the bill was much too weak for this exertion; it, however, picked up as many as ten others, each of which weighed about a pound, arranged them in rows, with their heads towards the throat;—and after this, it walked off in a stately manner, with the bag hanging down to its feet. The pouch held about two gallons of water.

*OF THE DARTER TRIBE IN GENERAL**.

There are but three ascertained species of this tribe, and these are confined to the hot latitudes; two to America,

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* *Pelecanus rufescens* of Linnæus.

† These birds have a small head, and a very long and slender neck. Their bill is long, straight, and sharp-pointed, and, at its base, are the nostrils, situated in a long and conspicuous fissure. The face and chin are bare of feathers. The legs are short, and the four toes are all webbed together.

and the third principally to Ceylon and Java. They live almost entirely on fish, which they take by darting forward their bill. They generally build their nests, and roost in the trees.

THE BLACK-BELLIED *, AND THE WHITE-BELLIED DARTER †.

In countries where every one's ideas run on poisonous animals, any person who sees only the head and neck of the Black-bellied Darter, while the rest of the body is concealed among the foliage, would naturally mistake it for one of those serpents accustomed to climb into and reside in trees. And the illusion is increased by its having all the tortuous motions of those reptiles. In whatever situation it happens to be, whether swimming, flying, or at rest, the most apparent and remarkable part of its body, is its long and slender neck, which is constantly in motion, except during flight, when it becomes immoveable and

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* DESCRIPTION. The length of this bird is about three feet. Its head and neck, and the upper part of the breast, are of a pale brown colour; and on each side of the head and neck there is a broad white line. The belly, wings, and tail, are black; as are also the back, scapulars, and wing-coverts, but these are marked with white lines. The bill is bluish above, and somewhat red beneath.

SYNONYMS. Plotus Melanogaster. *Linn.*—Anhinga de Cayenne. *Buff.*—Black-bellied Anhinga. *Penn. Ind. Zool.*—Black-bellied Darter. *Latham.*

* DESCRIPTION. The White-bellied Darter is about two feet ten inches in length. The head, neck, and breast are of a reddish-gray colour. The upper parts of the body are black. The scapular feathers have a white spot in the middle. The belly is white. The bill is cinereous, and yellowish at the base.

SYNONYMS. Plotus Anhinga *Linn.*—Anhinga. *Buff.*—Snake-bird. *Bartram.*—White-bellied Darter. *Latham.*

extended, and forms, with the tail, a perfectly straight and horizontal line.

The principal food of the Black-bellied Darter, is fish, which, if small enough, it swallows entire; but, if they are too large, it flies off with them to some rock or stump of a tree, where, fixing them under one of its feet, it tears them to pieces with its bill.

Though water is its principal element, yet this bird builds its nest and rears its offspring on rocks and trees; but always on those that are so near to the rivers, that it can, either in case of danger, or when the young ones are old enough to swim, precipitate them into it.

There are few birds that exceed these in sagacity and cunning, particularly when surprised on the water. In this situation it is almost impossible to kill them. Their head, which is the only part exposed, disappears the instant the flint touches the hammer of the gun; and, if once missed, it is in vain to think of approaching them a second time, as they never shew themselves more than once, unless at very great distances, and then only for the moment necessary for breathing. In short, so cunning are they, that they will often baffle the sportsman, by plunging at the distance of a hundred paces above, and rising again to breathe at the distance of more than a thousand below him; and, if they have the good fortune to find any reeds, they conceal themselves there, and entirely disappear.

These birds are found in several parts of the South of Africa, and in the islands of Ceylon and Java.

The *White-bellied Darters*, according to the account of Mr. Bartram, are natives of America. He states, that they have a peculiar manner of spreading out their tail, like an unfurled fan. They delight to sit in little peaceable communities, on the dry limbs of trees, hanging over the still waters, with their wings and tail expanded; and, when

approached, they drop from the limb into the water, as if dead, and for a minute or two are not seen, when on a sudden, at a vast distance, their long slender heads and necks are raised, and have much the appearance of snakes, as no other parts of the body are to be seen when swimming, except sometimes the tip of the tail. In the heat of the day they are often seen in great numbers, sailing high in the air over the rivers and lakes.

OF THE DIVER TRIBE IN GENERAL.*

These birds walk awkwardly, and with great difficulty; but they fly very swiftly along the surface of the water, and swim and dive with remarkable dexterity. One division of them, the Guillemots, chiefly inhabit the sea; but the rest seldom frequent any but rivers and fresh-water lakes. They all live on fish.

THE NORTHERN DIVER, OR LOON†.

Every part and proportion of this bird is so incomparably adapted to its mode of life, that in no instance do

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* In the Divers the bill is slender, pointed, and nearly straight; the nostrils are linear, and situated at the base. The tongue is long and slender; and the legs are placed backwards near the tail.

† Description. The Northern Diver is nearly three feet and a half in length. The bill is black; and is four inches and a half long. The head and neck are of a deep velvet black. Under the chin there is a patch of white, marked with several parallel lines of black; and on each side of the neck, and on the breast, there is also a large portion of white marked in a similar manner. The upper parts are black, marked with white spots; and the under parts are white. The wings are short; and the quills, tail, and legs, are black. The female is smaller than the male.

This bird inhabits chiefly the northern seas, and is common on some of the coasts of Scotland.

Synonyms. Colymbus glacialis. *Linn.*—Imbrim. *Buff.*—Greatest

we see the wisdom of God in the creation to more advantage. The head is sharp; and smaller than the part of the neck adjoining, in order that it may pierce the water: the wings are placed forward, and out of the centre of gravity, for a purpose which shall be noticed hereafter; the thighs quite at the podex, in order to facilitate diving: and the legs are flat, and as sharp backwards almost as the edge of a knife, that, in striking, they may easily cut the water: while the feet are broad for swimming; yet so folded up, when advanced forward to take a fresh stroke, as to be full as narrow as the shank. The two exterior toes of the feet are longest; and the nails are flat and broad, resembling those of the human body; which give strength to the bird, and increase the power of swimming. The foot, when expanded, is not at right angles to the leg; but the exterior part, inclining towards the head, forms an acute angle with the body: the intention being, not to give motion in the line of the legs themselves, but by the combined impulse of both in an intermediate line, the line of the body.

Most people who have exercised any degree of observation, know that the swimming of birds is nothing more than walking in the water, where one foot succeeds the other as on the land; but no one, as far as I am aware, (says the Rev. Mr. White,) has remarked that diving-fowls, while under water, impel and row themselves forward by a motion of their wings, as well as by the impulse of their feet: yet such is really the case, as any one may easily be convinced, who will observe ducks when hunted by dogs in a clear pond.—Nor do I know that any one has given a reason why the wings of diving fowls are placed so for-

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Speckled Diver, or Loon. *Willughby.*—Northern Diver. *Penn.*—*Penn. Brit. Zool.* ii. *tab.* 84.—*Bew. Birds,* ii. *p.* 183.

ward: doubtlesss, not for the purpose of promoting their speed in flying, since that position certainly impedes it; but probably for the increase of their motion under water, by the use of four oars instead of two; and were the wings and feet nearer together, as in land-birds, they would, when in action, rather hinder than assist one another.

THE CHINESE DIVER *.

This is supposed to be one of the species of birds used by the Chinese for the catching of fish †. In that employment it has a ring fastened round the middle of the neck, to prevent its swallowing; it has also a long, slender string fastened to it. Thus accoutred, it is taken by its master into the fishing-boat, from the edge of which it is taught to plunge after the fish as they pass by; and, as the ring prevents these from passing down into the throat, they are taken from the mouth of the bird as fast as it catches them. In this manner it frequently happens that a great many are procured in the course of a few hours. When the keeper has thus procured a sufficient quantity of fish for himself, the ring is taken off, and the poor labourer is suffered to satisfy its own hunger.

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* Description. The accounts that have been given of this bird are very imperfect. Its size is not known. Its bill is dusky. The upper parts of the plumage are greenish brown; and the fore-part of the neck the same, but paler. The chin, and under parts, are yellowish white, marked with dusky spots. The legs are ash-coloured.

Synonym. Colymbus Sinensis. *Turton's Linn.*

† The bird most commonly used for this purpose by the Chinese fishermen, is a species of pelecan, the fishing corvorant, (pelecanus Sinensis;) to which article the reader is referred for a further account of this singular mode of fishing.

OF THE GULLS IN GENERAL*.

The Gulls frequent chiefly the northern countries, and their habits differ from those of most other water-fowl. They do not dive so much as others; but usually feed on the gregarious species of fish and their fry, which they catch near the surface of the water. When the sea is rough they come into the harbours, where they feed on worms. Some of them occasionally devour carrion; and Mr. Stackhouse, of Pendarvis in Cornwall, took from the craw of one of the common species, nearly a pint of the small fern chafer, *Scarabœus horticola*. They are exceedingly voracious; and, when terrified, throw up their undigested food. By the lightness of their body, and the length of their wings, they are enabled to fly with considerable rapidity. The young ones do not become of the same colour with the old birds until their third year. The eggs are eatable, but their flesh is generally tough and unpleasant.

THE SKUA GULL†.

The Skua Gull inhabits Norway, the Fero islands, and other parts of the north of Europe. It is the most formid-

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* Their bill is strong, straight, and slightly hooked at the point. On the under part of the lower mandible there is an angular prominence. The nostrils are oblong and narrow, placed in the middle of the bill; and the tongue is somewhat cloven. The legs are short, and naked above the knees; and the back toe is small.

† Description. This bird is nearly two feet in length, and weighs about three pounds. Its bill is two inches and a quarter long, hooked at the end, and very sharp; and the upper mandible is covered more than halfway down with a black cere or skin, as in the hawk kind. The feathers of the upper parts of the body are of a

able bird of the tribe; its prey being not only fish, but (what is wonderful in a web-footed bird) all the lesser sorts of water-fowl, and (according to the account of Mr. Schroter, a surgeon of the Fero Isles) ducks, poultry, and even young lambs.

It has the fierceness of the eagle in defending its offspring. When the inhabitants of those islands visit the nest, it attacks them with such force, that, if they hold a knife perpendicularly over their heads, the Gull will sometimes transfix itself in its fall on the plunderers. The Rev. Mr. Low, minister of Birfa, in Orkney, informs us, that, on his approaching the habitations of these birds, they assailed him, and the company along with him, in the most violent manner; and intimidated a bold dog in such manner as to drive him for protection to his master. The natives are often very rudely treated by them while they are attending their cattle on the hills; and they are frequently obliged to guard their heads by holding up their sticks, on which (in the manner mentioned above) the birds often kill themselves.

In Foula, the Skua Gulls are privileged; being said to defend the flocks from the attacks of the eagle, which they beat off and pursue with great fury; so that even that rapacious bird seldom ventures to approach the places which they inhabit. The natives of Foula on this account impose a fine upon any person who destroys one of these useful defenders: and deny that they ever injure their flocks or poultry; but imagine them to live only on the dung of the Arctic Gull and other larger birds.

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deep brown, but below they are somewhat of a rust colour. The talons are black, strong, and crooked.

Synonyms. Larus Cataractes. *Linn.*—Goeland Brun. *Buff.*—Sea Eagle. *Sibbald.*—Cataractes, or Cornish Gannet. *Ray. Will.*—Brown Gull. *Albin.*—Skua Gull. *Penn.*—*Bew. Birds*, ii p. 233.

AMPHIBIOUS ANIMALS*.

Reptiles †.

OF THE TORTOISE TRIBE‡.

THE animals of this tribe have an advantage over most others, even from their first seeing the light, in a solid and durable house; an asylum which is at the same time capable of resisting very powerful enemies, and yet is not fixed to one spot. They carry every where along with them the dwelling which nature has furnished, and under which they generally dwell in perfect security. This consists of two plates; the one above, and the other below, joined together at the sides. The upper one is convex, and into it the ribs and back-bone are ossified; the other contains the breast-bones, or sternum.

At each end of the two united shells, there is a hole; one for the head, neck, and fore-feet to pass through, and the other, at the opposite end, for the hinder feet, and the tail.

When these animals are inclined to walk or swim, they extend their head and feet from under their armour. These parts, with the tail, are covered by a strong flexible skin, which is fixed within, to the edges of the shells.

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* For a general account of the *Amphibia*, see vol. i. p. 32.

† The *Reptiles* are furnished with legs. They have flat, naked ears, without auricles.

‡ The body is tailed, and covered above and beneath with a bony, or coriaceous shell, or above with scales. The upper jaw encloses the lower one like the lid of a box.

The head is small, and in the place of teeth, it is furnished with hard and bony ridges. The upper jaw closes over the lower one like the lid of a box; and the strength of the jaws is said to be so great, that it is impossible for any person to open them when they have once fastened. Even after the head has been cut off, the muscles retain a surprising degree of rigidity.

The legs are short, but inconceivably strong. One of the larger species has been known to carry five men, all at the same time, on his back, with the greatest apparent ease and unconcern.

No animals whatever are more tenacious of life than these: even if their head be cut off, and their chest opened, they will continue to live for several days.—The species that inhabit the land or the fresh-waters, subsist principally on worms, snails, and fish; and the others, which reside in the ocean, feed, for the most part, on sea-weeds.

The Marine Tortoises, or *Turtles*, are distinguished from the others by their large and long fin-shaped feet, in which are enclosed the bones of the toes; the first and second only of each foot having visible or projecting claws.

Of these animals, there are, in the whole, about *thirty-six* species: four marine, eighteen inhabiting the fresh-waters, and the rest residing on land.

THE COMMON, OR GREEK TORTOISE*.

The upper shell of this Tortoise is so extremely protuberant, that the animal is able, without much difficulty,

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* Description. The Common Tortoise is seldom more than eight or nine inches in length, nor does its weight often exceed three pounds. The shell, which (as in most of the other species) is composed of thirteen middle pieces, and about twenty-five marginal

to recover its procumbent posture, if, by accident, it has been turned upon its back; and it does not, in this case, like some of the turtles, remain a prey to its enemies.

The jaws of the Greek Tortoise are moved by means of muscles, which have such extraordinary force and activity, that sometimes for more than half an hour after the head of the animal is cut off, they will gnash together with considerable force.

For extreme slowness of all its movements, the Tortoise has been notorious, even from the most remote periods of antiquity. This is principally occasioned by the position of the legs, which are situated very much towards the sides of the body, and are consequently spread far out from each other. It may likewise be in some degree caused by the great weight of the shell pressing on this unfavourable position of the legs.—In walking, the claws of the fore-feet are rubbed separately, and one after another, against the ground; when one of the feet comes in contact with the ground, the inner claw first bears the

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ones, is of an oval form, extremely convex, and broader behind than before. The middle part is blackish brown, varied with yellow. The under part or belly of the shell is of a pale yellow, with a broad dark line down each side, leaving the middle part plain. The head is not large, nor does the opening of the mouth extend beyond the eyes: the upper part is covered with somewhat irregular scales. The legs are short, and the feet moderately broad, and covered with strong ovate scales. The tail is somewhat shorter than the legs: it is also covered with scales, but terminates in a horny tip.

This animal is found in most of the countries near the Mediterranean Sea, in Corsica, Sardinia, and some of the islands of the Archipelago, as well as in many parts of the north of Africa.

Synonyms. Testudo Græca. *Linn.*—La Grecque. *La Cepede.*—Common Land Tortoise, Greek Tortoise. *Shaw's Gen. Zool. vol.* iii. *tab.* 1.

weight of the body, and so on along the claws in succession to the outermost. The foot in this manner acts somewhat like a wheel.

This species resides principally in burrows that it forms in the ground. In these it sleeps away the greatest part of its time, appearing abroad only for a few hours in the middle of each day. It feeds on various kinds of herbs, fruit, worms, snails, and insects; but never attacks warm blooded animals nor fish. Its manners are exceedingly gentle and peaceable; hence it is easily domesticated, and is an agreeable object in gardens, where it destroys noxious slugs and insects. In defect of its usual food, it may be supplied with, and will live sufficiently well on, bran or meal.

In the autumn it retires to some hiding place under the surface of the earth, where it remains in a state of torpor for four or five months, not again making its appearance abroad until re-called into life by the warmth of the vernal sun.—About the beginning of June, the female, when in her native wilds, scratches a hole in some warm situation, where she deposits her four or five eggs. These are hatched in September; and the young ones, when they first come into the world, are not bigger than a walnut.

These animals have been often brought into England. The Rev. Mr. White, of Selbourne, attended accurately to the manners of one that was in the possession of a lady of his acquaintance (who resided in Sussex) upwards of thirty years. It regularly retired underground about the middle of November, from whence it did not emerge until about the middle of April. Its appetite was always most voracious in the height of summer, eating very little either in the spring or autumn. Milky plants, such as lettuces, dandelions, and sowthistles, were its principal food. In scraping the ground to form its winter retreat, it used its fore-feet, and threw up the earth with its hinder ones over

its back; but the motion of its legs was so slow, as scarcely to exceed the hour-hand of a clock. It worked with the utmost assiduity, both night and day, in scooping out the earth, and forcing its great body into the cavity; notwithstanding which, the operation occupied more than a fortnight before it was completed.

It was always extremely alarmed when surprised by a sudden shower of rain, during its peregrinations for food. Though its shell would have secured it from injury, even if run over by the wheel of a loaded cart, yet it discovered as much solicitude about rain, as a lady dressed in her most elegant attire; shuffling away on the first sprinklings, and always, if possible, running its head up into a corner.—When the Tortoise is attended to, it becomes an excellent barometer: if it walks elate, and, as it were, on tiptoe, feeding with great earnestness, in a morning, there will, almost invariably, be rain before night.

Mr. White was much pleased with the sagacity of the above-mentioned animal, in distinguishing those persons from whom it was accustomed to receive attention. Whenever the good old lady came in sight, who had waited on it for more than thirty years, it always hobbled, with awkward alacrity, towards its benefactress, whilst to strangers it was altogether inattentive. Thus did the most abject of torpid creatures distinguish the hand that fed it, and exhibit marks of gratitude not always to be found in superior orders of animal being. It was a diurnal animal, never stirring out after dark, and very frequently appearing abroad even a few hours only in the middle of the day. It always retired to rest during every shower, and in wet days never came at all from its retreat. Although this Tortoise loved warm weather, yet he carefully avoided the hot sun, since his thick shell, when once heated, must have become extremely painful, and probably dangerous to him. He therefore spent the more sultry hours under the

umbrella of a large cabbage leaf, or amidst the waving forests of an asparagus bed. But, as he endeavoured to avoid the heat in the summer, he improved the faint autumnal beams by getting within the reflection of a fruit-tree wall; and though he had certainly never read that planes inclining to the horizon receive a greater share of warmth, he frequently inclined his shell, by tilting it against the wall, to collect and admit every feeble ray.

This animal was at last given to Mr. White, and in the month of March, 1780, he dug it out of its winter dormitory, in order to convey it to his own house in Hampshire. The spring was a backward one; but the animal was become sufficiently recovered from its torpidity to express its resentment for the disturbance, by hissing. It was packed in a box, and carried eighty miles in post-chaises. The rattle and hurry of the journey so roused it, that, when it was turned out on a border in Mr. White's garden, it walked twice down to the bottom. In the evening, however, the weather being cold, it buried itself in the loose mould, and remained concealed for above a month. Towards the time of its coming forth, it opened a breathing place in the ground near its head, requiring, no doubt, a free respiration as it became more lively. On the twenty-first of April it heaved up the mould and put out its head; and on the following morning issued forth from its retreat, and walked about until four o'clock in the afternoon.

Very ample evidence has been produced of this species of Tortoise living to a most extraordinary age. One that was introduced into the garden at Lambeth, in the time of archbishop Laud, was living in the year 1753, a hundred and twenty years after its introduction; and at last it perished, from a neglect of the gardener.—In the year 1765, a Tortoise was living in the garden of Samuel Simmons, Esq. at Sandwich in Kent, which was known to have been there from about the year 1679; but how long

before that period, no one could say with certainty. There is, however, good reason for supposing it to have been brought thither from the West Indies by a gentleman of the name of Boys, who was owner of the premises several years before the first period. This animal died in the winter of 1767. It appeared that it had endeavoured (according to its annual custom) to burrow into the ground; but having selected for this purpose a spot near an old vine, its progress was obstructed by the root, and it probably had not strength enough to change its situation, as it was found dead with only half its body covered. About thirty years before its death, it got out of the garden, and was much injured by the wheel of a loaded waggon, which went over it, and cracked its upper shell.

Like other oviparous quadrupeds, the Tortoise can subsist for an amazing length of time without food. Gerard Blasius kept one by him ten months, during which time it neither ate nor drank. It died at the end of that period, as it was believed, not from hunger, but on account of being kept unsheltered in an unusually cold season.

The horrid experiments of Redi, to prove the extreme vital tenacity of the Tortoise, are a disgrace to the philosophic page. In one instance he made a large opening in the skull, and drew out all the brain, washing the cavity, so as not to leave the smallest part remaining, and then, with the hole open, set the animal at liberty. It marched off, as he says, without seeming to have received the slightest injury, save from the closing of its eyes, which it never afterwards opened. In a short time the hole was observed to close, and in about three days a complete skin covered the wound: in this manner the animal lived, without the brain, for six months, walking about, and still moving its limbs in the same manner as it had done previously to the operation.

MAHARAJA SERFOGI'S SARASVATI

The males of this species are said to fight very often. This is done by butting at each other, and with such force that the blows may be heard at a considerable distance.

In Greece these Tortoises form an article of food. The inhabitants also swallow the blood without any culinary preparation, and are very partial to the eggs, when made palatable by boiling. In the gardens of some parts of Italy, there are formed for the purpose wells, in which the inhabitants bury the eggs of the Tortoise. These remain until the ensuing spring, when, by the natural warmth of the climate, they are hatched, and the young ones come forth. The Tortoises are kept in banks of earth.

The two following Species are Marine Tortoises, or, as they are usually denominated, Turtles.

THE GREEN TURTLE *.

This species is found in great quantities on the coasts of all the islands and continents of the Torrid Zone, both in the old and new worlds. The shoals that surround these islands, and border the whole coasts of these continents, produce vast quantities of *algae*, and other marine plants, which, though covered by the water, are near enough to

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* Description. The length of the Green Turtle is sometimes upwards of six feet, and the weight five or six hundred pounds. Dampier mentions an immensely large one that was caught at Port-royal, in the Bay of Campeachy. It was nearly six feet in width, and four feet in thickness. A son of Captain Roch, a boy about ten years old, went in the shell, as in a boat, from the shore to his father's ship, lying about a quarter of a mile distant. The shell of these animals is broader before than behind, where it is somewhat pointed. It consists of thirteen brownish divisions, surrounded by

the surface to be readily seen by the naked eye, during calm weather. Amid these submarine pastures, a number of marine animals are found, and amongst them the Green Turtles are often seen, in vast numbers, feeding quietly on the plants which they produce.

As the Turtles find a constant abundance of food, on the coasts which they frequent, they have no occasion to quarrel with animals of their own kind, for that which is afforded in such plenty to them all. They flock peaceably together; but they do not appear, like many other herding animals, to have any kind of association. They merely collect, as if by accident, and they remain without disturbance.

These animals, by means of their powerful jaws, brouse on the grass, sea-weed, and other plants which grow on the shoals and sand-banks; and with them they are likewise able to crush the shell-fish on which they sometimes feed.

After having satisfied their appetites, they oftentimes retire to the fresh water, at the mouth of the great rivers, where they float on the surface, holding their heads above the water, apparently for the purpose of breathing the fresh air. But as they are surrounded with many dangers, both from their natural enemies, and from mankind, they are necessitated to use great precaution, in thus indulging themselves with cool air, and with the refreshing streams of

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twenty-five marginal ones.—Their mouth is so large as to open beyond the ears on each side. This is not armed with teeth, but the bones of which the jaws are composed are very hard and strong, and furnished with points or asperities, that serve, in some degree, the same purpose.

SYNONYMS. Testudo mydas. *Linnæus.*—Tortoue Franche. *La Cepede.*—Common Green Turtle, Common Turtle, Esculent Turtle, Green Turtle. *Shaw.*—*Shaw's Gen. Zool. vol.* iii. *tab.* 22.

river water. The instant they perceive even the shadow of any object, from which they suspect danger, they dive to the bottom for security.

The legs of the Green Turtles bear so great a resemblance to fins, as to afford them little service except in swimming. These animals are indeed seldom found on shore at any other than their breeding time, about the month of April; when the females leave the water, from time to time, in order to deposit their eggs in the sand. By means of their fore-paws, they each dig a hole in the sand, above high-water mark, about one foot wide, and two feet deep, into which they sometimes drop upwards of a hundred eggs. When engaged in this operation, they are so intent on the business, that they do not notice any person who approaches the place, and they will even drop their eggs into a hat if it be held under them. If, however, they are disturbed before the commencement of the operation, they always forsake the place. They lay their eggs at three, and sometimes four different times, about fourteen days asunder; so that the young ones are hatched and come forth also at different periods. After the eggs are deposited, the parent animal scratches over them a layer of sand, sufficient to prevent them from being seen by any person or animal, that might endeavour to destroy or carry them off, but so thin as to admit of their receiving the full influence of the sun's heat, for warming and hatching them. The eggs are spherical, and each two or three inches in diameter, covered by a strong membrane greatly resembling wet parchment. They are composed of a yolk, which by boiling may be coagulated like that of other eggs, and of a white, which is said not to be coagulable in any degree of heat.

At the end of twenty or thirty days, (for the time differs according to the heat of the climate,) the young Turtles may be seen creeping out from under the sand, being then

two or three inches long, and not quite so much in breadth. Their natural instinct leads them, about eight days afterwards, when they have attained sufficient strength, to seek the neighbouring water, as a place of security, and where they may find their proper food. To this they crawl very slowly, and, being still too light, and too weak to bear the force of the surf, they are often driven back on the beach, where great numbers of sea-fowl are generally in waiting to devour them. Hence only a small number, in proportion to the multitudes that are hatched, escape into their proper element. Mankind likewise search, with great eagerness, for the eggs, on account of their furnishing an agreeable and wholesome food.

On the coast of Isini, in Africa, the inhabitants catch great numbers of the young ones immediately after they are hatched. These they secure in a kind of enclosures, surrounded by stakes, and so situated as to admit the influx of the sea. In these they are allowed to feed and grow, in order to be taken out when wanted; this being a more ready and less dangerous mode of supply, than by the common manner of catching the grown animals.

The old females of this species, notwithstanding they only come on shore in the night, in order to deposit their eggs, are often caught by the fishermen, who are in waiting about their haunts; and who either dispatch them by blows with a club, or turn them over on their backs. When they happen to be large, it sometimes requires the efforts of several men to turn one of them over, and these must often employ even handspikes or levers for that purpose. The back shell in this species is so flat, as to render it impossible for the animal to recover its proper position, when once it is thrown upon its back.

The inhabitants of the Bahama Islands are said to be very dexterous in the catching of Turtles. They frequent, for this purpose, the coasts of Cuba, and of some of the

neighbouring islands. When they find the Turtles on land, they adopt the mode of throwing them on their backs, above described. But they take many in the sea, oftentimes at a considerable distance from shore. These are struck with a kind of spear, whose shaft is about four yards in length. For this work two men usually get into a small and light boat, or canoe, one to paddle it gently along, and steer, and the other to stand at the head with his weapon. Sometimes the Turtles are discovered swimming with their head and back out of water; but they are most commonly seen lying at the bottom, where the water is a fathom or more in depth. If the animal perceives that he is discovered, he immediately attempts to escape. The men pursue and endeavour to keep him in sight, and generally so far tire him, that, in the course of half an hour, he sinks to the bottom, which affords them an opportunity to strike him with the spear through the shell. The head of the spear, which now slips off and is left in his body, is fastened with a string to the pole; and by means of this apparatus, they are enabled to pursue him, if he should not be sufficiently spent without: if, however, that is the case, he tamely submits to be taken into the boat, or hauled ashore.

In some parts of the South Seas a peculiarly dexterous method is adopted of catching Turtles. A bold diver throws himself into the water, at some distance from the place where the Turtles are observed floating asleep on the surface. He dives under the animals, and rising gently behind one of them, seizes the upper shell just behind the tail, and pressing down the hinder part in the water, obliges the fore-part of the animal, now awakened, to keep upright, and thus prevents it from diving, until his companions come with a boat, and take him and his prey on board.

Green Turtles are sometimes caught on the European

shores, driven thither by stress of weather. In the year 1752, one, six feet long and four broad, weighing betwixt eight and nine hundred pounds, was caught in the harbour of Dieppe, after a storm. In 1754, a still larger one, upwards of eight feet long, was caught near Antioche, and was carried to the abbey of Long-veau, near Vannes, in Brittany; and about three years ago I saw a small one which had been caught amongst the submarine rocks near Christchurch, Hants.

These animals have their name from the green colour of the flesh. Besides affording to mankind their flesh and eggs for food, some of them yield betwixt twenty and thirty pints of a yellow or greenish oil, which is used in lamps for burning, or, when fresh, with different kinds of provisions. When the animals are caught in any quantity, their flesh is often salted for exportation. In the American colonies, salt Turtle is in as great request, as the salted cod of Newfoundland is in many parts of Europe.

The introduction of the Turtle, as an article of luxury, into England, appears to have taken place within the last seventy years. We import them principally, if not entirely, from the West India islands.

THE LOGGERHEAD TURTLE*.

These Turtles inhabit the seas about the West India islands; they are also found in the Mediterranean, but particularly about the coasts of Italy and Sicily. In some seas they are more numerous than the green turtles; and

* DESCRIPTION. This is a larger and stronger species than the last; but, in its general appearance, bears a great resemblance to it. The head, however, is proportionally larger, and the shell broader; and the number of segments of the disk is fifteen, of which the mid-

MAHARAJA SERFOGI'S SAR

being more strong, they occasionally make much longer voyages. They are often found in the ocean, at a distance of more than eight hundred leagues from land. One of them was seen by Catesby, sleeping on the surface of the water, in latitude 30 degrees north, apparently about midway betwixt the Azores and the Bahama Islands, and these were the nearest possible land.

These animals are excessively bold and fierce. When attacked they vigorously defend themselves, both with their mouth and paws, against the assailants; and it is extremely difficult to make them quit any hold which they happen to take with their jaws: so powerful are these, that the animals are able to divide even very strong substances by means of them. Aldrovandus assures us, that, on offering a thick walking-stick to the gripe of a Loggerhead Turtle, which he saw publicly exhibited at Bologna, the animal bit it in two in an instant.

The Loggerheads are not, like the green turtles, contented with marine plants; their principal food is shell-fish, which their strong beak enables them, without difficulty, to tear from the rocks and break to pieces; and their voracity is said to be such, that, in some countries, it leads them to attack even young crocodiles, which they often mutilate of their limbs or tail.

As the food of this species is, in its nature, more subject to putrefaction than that of the green turtle, its flesh participates of the bad flavor of these substances, and is oily, rancid, fibrous, tough, and fishy. The musky smell which proceeds from most of the tortoises, is still stronger and more disagreeable in this species; so, indeed, as to be

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dle range are gibbous, or protuberant towards their tips. The fore legs are large and strong, and the hinder ones broad and shorter.

SYNONYMS. Testudo caretta. *Linnæus.*—Couane. *La Cepede.*—*Shaw's Gen. Zool. vol.* iii. *tab.* 23, 24, 25.

almost intolerably fetid. It yields a great quantity of oil, which also is too offensive to be used in any manner as food; but it serves sufficiently well for burning, dressing leather, and for the bottoms of ships, which last it is said to preserve from the attacks of worms. The plates of the shell are not of sufficient thickness to be of great use in the manufacture of ornamental articles.

Rondeletius, who was a native of Languedoc, informs us that he kept alive a Turtle of this species, which had been caught on the coast of Provence, for a considerable time. It emitted a confused kind of noise, and frequently sighed.

The substance that we call *Tortoise-shell* is the production of the *Imbricated Turtle**, a species nearly allied to the present, which is found in the Asiatic and American seas, and sometimes in the Mediterranean. The plates of this species are far more strong, thick, and clear, than those of any other; and these constitute the sole value of the animal. They are semi-transparent, beautifully variegated with different colours, and, when properly prepared and polished, are used for a variety of ornamental purposes. They are first softened by steeping in boiling water, after which they may be moulded into almost any form.

OF THE FROG TRIBE†.

The animals which compose this tribe are very generally dispersed over the globe. They feed on insects and worms, residing principally in dark and unfrequented places, from

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* *Testudo imbricata* of Linnæus. Hawk's-bill Turtle of several writers.

* These animals have four feet; and their bodies are naked. When full grown they are destitute of tails. The hind legs are longer than the fore ones.

whence they crawl forth only in the night. Many of them have an aspect very disgusting and unpleasant. Some, however, less unpleasant to the sight, are furnished with slender limbs, and have their toes terminated by flat, circularly expanded tips, which enable them to adhere at pleasure to the surface of even the smoothest bodies: these reside generally in the trees, where they adhere to the lower sides of the leaves or branches.

All the species are oviparous, and the eggs are perfectly gelatinous. From the egg proceeds a Tadpole without feet, but furnished with a tail to aid its motion in the water: this drops off as the legs become protruded. In this imperfect state the animals have also a sort of gills or subsidiary lungs; and several of them a small tube on the lower lip, by means of which they can fix themselves to solid bodies, for the purpose of eating, or of performing other functions. They all arrive at maturity about their fourth year, and very few outlive the age of ten or twelve.

The whole of this tribe catch their food by means of the tongue, which is inserted into the front of the mouth, and, when the animal is at rest, lies with its point towards the throat. The moment the animal observes an insect within its reach, this is suddenly thrown out, and the little victim is secured on its glutinous extremity.

In several of the species, the toes both of the fore and hind feet are distinct and separate; but in others, these are connected together by webs or membranes, for the purpose of aiding them in swimming.

The number of species hitherto described is about *fifty*. These are divided into three sections: namely,

Frogs, which have smooth bodies, longish legs, and discharge their eggs in a mass. These leap with great agility; and their hind legs are, in general, equal in length to the head and body.

Hylæ, or *Tree-Frogs*, which have their hinder legs very long, and the toes unconnected. These are generally smaller than Frogs, and more elegant in all their proportions. Their toes are furnished with little viscid pellets, by means of which they are enabled to attach themselves even to the under surfaces of polished bodies. They are extremely nimble, leap with great force, and are able to pursue insects, on which they feed, with great agility, even on the branches and leaves of trees.

Toads, which have their bodies puffed up and covered with warts. These have short legs, and can scarcely be said to leap. They avoid the light, and seldom leave their retreats in search of prey but during the night. These animals discharge their eggs in a long necklace-like string.

THE COMMON FROG*.

In France this Frog is called *La Muette*, or the Silent Frog, from the circumstance of its voice being much less frequently heard, and being neither so loud nor so harsh, as that of the Edible Frog, the ensuing species. In the breeding season, however, these animals often emit a kind of dull cry or murmur, which is more frequently repeated by the male, and is louder in that sex than in the female.

The appearance of the Common Frog is lively; and its form, on the whole, by no means inelegant. The limbs are well calculated for aiding the peculiar motions of the animal, and its webbed hind feet for assisting its progress

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* DESCRIPTION. The colour of the Common Frog is olive brown, variegated on the upper parts of the body with irregular blackish spots. Beneath each eye there is a patch or mark, which reaches to the base of the fore legs.

SYNONYMS. Rana temporaria. *Linn.*—La Rousse, La Muette, *La Cepede.*—*Shaw's Gen. Zool. vol.* iii. *tab.* 39.

in the water, to which it occasionally retires during the heats of summer, and again in the frosts of winter. During the latter period, and till the return of warmer weather, it lies in a state of torpor, either deeply plunged in the soft mud at the bottom of stagnant waters, or in the hollows beneath their banks. Immediately on coming forth in the spring they change their skin, and this operation they repeat, generally about every eight or ten days, through the whole summer. The old skin, after it is entirely separated from the body, resembles rather a kind of thin mucus, than a membrane.

The spawn of this Frog, which is cast generally in the month of March, consists of a clustered mass of gelatinous, transparent, and spherical eggs, from six hundred to a thousand in number, in the middle of each of which is contained the embryo or tadpole, in the form of a black globule. This sinks to the bottom of the water. During some hours it suffers no perceptible change; but when the eggs begin to enlarge, in consequence of becoming proportionally lighter, it rises to the surface. Roesel, the German naturalist, who paid great attention to this tribe, informs us, that at the end of eight hours the gelatinous part of the eggs grows thicker; and the eggs themselves, as they increase in size, take somewhat of a spherical form. On the twenty-first day, the egg, if carefully examined, will be found to have opened a little on one side, where the tail of the tadpole makes its appearance, which afterwards becomes more and more distinct every day. About the thirty-ninth day the little animals begin to have motion. Shortly after this, they tear asunder the membrane that immediately surrounds them, and float in the glairy fluid which connects the eggs together. The Tadpole at first quits this glairy matter only occasionally, as if to try its strength, and soon afterwards returns, apparently for the double purpose of retreat and nourishment.

The tadpoles, (as in most, if not all the other species,) are furnished with a small tubular kind of sucker beneath the lower jaw, by means of which they are enabled to hang at pleasure to the under surface of aquatic plants. From the situation of this sucker, the little animal is obliged always to turn on its back, when inclined either to respire or to lay hold of any substance on the surface of the water. The interior organs of the tadpole, when closely examined, are found to differ in many respects from those of the future frog. The intestines, in particular, are coiled into a flat, spiral form, somewhat resembling a cable in miniature.—When the animal is about six weeks old, the hind-legs appear, and in about a fortnight these are succeeded by the fore-legs. Not long afterwards the form is completed, and it, for the first time, ventures upon land.

With this wonderful change of body, the animals also change their food, they now surrender their former vegetable diet, for the smaller species of snails, worms, and insects; and the structure of their tongue is admirably adapted for seizing and securing this prey. The root is attached to the fore-part of the mouth, so that when unemployed, it lies with the tip towards the throat. The animal by this singular contrivance, is enabled to bend it to a considerable distance out of its mouth. When it is about to seize on any object, it darts it out with great agility, and the prey is secured on its broad and jagged glutinous extremity. This it swallows with so instantaneous a motion, that the eye can scarcely follow it.—Nothing, however, can appear much more awkward and ludicrous, than a Frog engaged with a large worm or a small snake; for nature seems to have put a restraint upon the voracity of these animals, by forming them very inaptly for seizing and holding their larger prey. Dr. Townson had a large Frog that one day swallowed in his presence a blind-

worm*, near a span long, which in its struggles frequently got half its body out again; and when completely swallowed, its contortions were very visible in the flaccid sides of its victor.

About the end of July, when the young Frogs have entirely laid aside their tadpole shape, they quit the water, and soon afterwards emigrate into the woods and meadows. The commencement of their journey is always in the evening. They travel all night, and conceal themselves during the day, under stones, or in other recesses; and resume their journey only when the night begins. In the day time, however, whenever it happens to rain, they always come out of their retreats, as if to solace and refresh themselves in the falling moisture. Hence originated a superstition common among the lower classes of people throughout Europe. These immense multitudes of Frogs, thus often suddenly emerging, and afterwards as suddenly disappearing, have greatly puzzled the weak heads of the vulgar, who could not explain so wonderful a phenomenon, but by the strange conjecture, that they descended in showers from the clouds, or that they were suddenly engendered by the mixture of drops of rain with the dust; and that, as soon as the sun regained his influence, they were all immediately annihilated. Mr. Ray informs us, that as he was riding one afternoon in Berkshire, he was much surprised at seeing an immense multitude of Frogs crossing the road. On further examination, he found two or three acres of ground nearly covered with them; they were all proceeding in the same direction, towards some woods and ditches that were before them. He traced them back to the side of a very large pond, which in the spawning-time, he was informed, always so much abounded

* *Anguis fragilis* of Linnæus.

with Frogs, that their croaking was frequently heard at a great distance.

Frogs are numerous throughout Europe, and in the parts of America, about Hudson's Bay, as far north as latitude 61°. They frequent there the margins of lakes, ponds, rivers, and swamps,; and, as the winter approaches, they burrow under the moss, at a considerable distance from the water, where they remain in a frozen state till spring. Mr. Hearne says, he has frequently seen them dug up with the moss, frozen as hard as ice. In this state their legs are as easily broken off as the stem of a tobacco-pipe, without giving them the least sensation: but, by wrapping them up in warm skins, and exposing them to a slow fire, they soon come to life, and the mutilated animals gain their usual activity. If, however, they are permitted to freeze again, they are past all recovery.

The mode of respiration in these animals, in common with many of the other reptiles, is exceedingly curious. The organs adapted to this use are not placed in the belly, nor in the lungs themselves, but in the mouth. Behind the root of the tongue is the slit-like opening of the trachea; and, at the front of the upper part of the head are two nostrils, through which the animal always draws the air, never opening its mouth for this purpose. Indeed the jaws during this action, are kept closely locked into each other by grooves; for if the mouth is open, it cannot respire at all, and the animal will presently be seen struggling for breath. When we observe it carefully, we perceive a frequent dilatation and contraction in the skinny bag-like part of the mouth which covers the under jaw. From this it would appear, at first sight, as if the creature lived all the while on one mouthful of air, which it seems to be playing backwards and forwards betwixt its mouth and lungs. But, for each movement in the jaw, a corresponding twirling movement may be observed in the

nostrils. The mouth seems therefore to form a sort of bellows, of which the nostrils are the air-holes, and the muscles of the jaws, by their contraction and dilatation, make the draught. The nostrils are so situated, that the least motion on them enables them to perform the office of a valve. By the twirl of the nostril the air is let into the mouth, when a dilatation of the bag takes place: it is then emptied from the mouth, through the slit behind the tongue, into the lungs, when there is a slight motion in the sides of the animal, and the muscles of the abdomen again expel it; and soon afterwards a second twirl in the nostrils takes place, and the like motions follow. Thus it appears that the lungs are filled by the working of the jaws, or, in other words, that Frogs swallow air much in the same manner that we swallow food.

Frogs, during the greatest part of the year, remain on land; and do not altogether retire to the water until the cold nights of autumn begin to set in, when they retreat, for the winter, to the bottom of stagnant waters.

They arrive at full age in about five years, and are supposed to live twelve or fifteen.—They are so tenacious of life, that they will continue to live, and will even jump about, for several hours after their heads have been cut off.

The croaking of Frogs is well known to all persons in the country. In the fens of Lincolnshire, these animals have, in consequence of this noise, received, among the common people, the appellation of *Dutch Nightingales* and *Boston Waites*. For a whole month in the heat of summer, they, however, become entirely silent; and this period is called by the country people of many parts of England, the *Paddock Moon*.

These Frogs are not so much in request for food as the following; not being so white, nor altogether so palatable. The hind-legs, however, are eaten, and the fore-legs and livers often form an ingredient in the continental soups.

THE EDIBLE FROG *.

The ova or spawn of this species, is not often deposited before the month of June. The globules are much smaller than those of the common frogs; and the young (which undergo precisely the same changes as the young of that species) are considerably longer in attaining their complete state, which indeed seldom takes place till towards the beginning of November. They arrive at their full growth in about four years, and live to the age of sixteen or seventeen.

These Frogs, during their breeding season, make a noise so loud, that, in the night, it may be heard to a very considerable distance. This cry begins in the early part of the spring, as soon as the fine weather sets in. Like the rest of their tribe, they are said always to be most vociferous before rain, and thereby to foretel the approach of damp or rainy weather. In some particular places where the animals are numerous, their croaking is very oppressive to persons who are unaccustomed to it. The males are always much louder than the females.

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* Description. The Edible Frog is considerably larger than the common species; and, though somewhat rare in England, is found in plenty in Italy, France, and Germany.

Its colour is an olive green, distinctly marked with black patches on the back, and on its limbs with transverse bars of the same. From the tip of the nose, three distinct stripes of pale yellow extend to the extremity of the body, the middle one slightly depressed, and the lateral ones considerably elevated. The under parts are of a pale whitish colour, tinged with green, and marked with irregular brown spots.

Synonyms. Rana esculenta. *Linnæus*.—Le Grenouille commune ou mangeable. *La Cepede*.—Esculent Frog, Green Frog. *Shaw*.—Edible Frog. *Penn*.—*Shaw's Gen. Zool. vol.* iii. *tab.* 31.

Like the common species, these Frogs feed on various kinds of insects, worms, and snails; but they are somewhat nice in the choice of their food. They never seize any thing until they first perceive it to move. They remain motionless, waiting till the worm or insect comes within their reach; they then spring towards it with great agility, and dart out their tongue, which is smeared over with so tenacious a glue, that when once it touches an insect, it can never escape. They are exceedingly voracious, sometimes venturing to attack and swallow young mice, small birds, and even newly-hatched ducks, when they can surprise these at the surface of the water.

This species lives a good deal in the water, from whence, however, they often come out, both in search of food, and to bask in the sun.—They become torpid at the commencement of the cold weather of winter; and this torpor generally takes place in some concealed retreat beneath the water, either in marshes, ponds, or lakes. Some few are found in subterraneous holes.

These creatures are brought from the country, thirty or forty thousand at a time, to Vienna, and sold to the great dealers, who have conservatories for them, which are large holes, four or five feet deep, dug in the ground, the mouth covered with a board, and in severe weather with straw. In these conservatories, even during a hard frost, the Frogs never become quite torpid. When taken out and placed on their backs, they are always sensible of the change, and have strength enough to turn themselves. They instinctively get together in heaps, one upon another, and thereby prevent the evaporation of their humidity; for no water is ever put to them. In Vienna, in the year 1793, there were only three great dealers; by whom most of those persons were supplied who brought them to the market ready for the cook.

The Edible Frogs are caught in various ways: some-

times in the night, by means of nets, collecting together round the light of torches carried out for the purpose; or sometimes by hooks, baited with worms, insects, flesh, or even a bit of red cloth. Being exceedingly voracious, they seize greedily, every thing that moves, and, when once they have fixed, they keep their hold with great obstinacy. In Switzerland they are caught by means of large rakes, with long, close-set teeth, which are thrown into the water, and drawn suddenly out again.

From their spawning-time being very late in the year, it is supposed that those animals which are brought to market before the month of June for the Edible Frog, are either common frogs, or sometimes that they are even toads.

THE BULL FROG*.

The interior parts of America are the principal residence of this species, where, at the springs or small rills, they are said to sit in pairs. In Virginia they are in such abundance, that there is scarcely any where a spring that has not a pair of them. When suddenly surprised, by a long leap or two, they enter the hole, at the bottom of

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* Description. This is an animal that frequently measures from the nose to the hind-feet a foot and a half, or upwards. The colour of its body is a dusky olive or brown, marked with numerous dark spots, lighter beneath than above. The external membranes of the ears are large, round, and of a brownish red, surrounded by a yellowish margin.

Synonyms. Rana Catesbeiana. *Shaw.*—Rana ocellata. *Linn.?* —La Mugissante, ou Grenouille Taureau. *La Cepede.*—Bull Frog. *Catesby.*—*Shaw's Gen. Zool. vol.* iii. *tab.* 33.

Dr. Shaw is of opinion, that Linnæus has described the frog, in General Zoology, called Argus Frog, under the name of *Rana Ocellata.*

which they lie perfectly secure. The inhabitants fancy that they purify the water, and respect them as genii of the fountains.—Kalm informs us, that they frequent only ponds and marshes.

Their croaking somewhat resembles the hoarse lowing of a bull; and, when in a calm night, many of them are making a noise together, they may be heard to the distance of a mile and a half. The night is the time when they croak, and they are said to do it at intervals. In this act they are either hidden among the grass or rushes, or they are in the water, with their heads above the surface. Kalm informs us, that as he was one day riding out, he heard one of them roaring before him, and supposed it to be a bull hidden in the bushes at a little distance. The voice was indeed more hoarse than that of a bull, yet it was much too loud for him to conceive that it could be emitted by so small an animal as a Frog, and he was in considerable alarm for his safety. He was undeceived a few hours afterwards, by a party of Swedes, to whom he had communicated his fears.

When alarmed, they leap to a most surprising distance at each exertion. A full-grown Bull Frog will sometimes leap three yards. The following story respecting one of them is well authenticated. The American Indians are known to be excellent runners, being almost able to equal the best horse in its swiftest course. In order, therefore, to try how well the Bull Frogs could leap, some Swedes laid a wager with a young Indian that he could not overtake one of them, provided it had two leaps beforehand. They carried a Bull Frog, which they had caught in a pond, into a field, and burnt its tail.—The fire, and the Indian who endeavoured to outrun the Frog, had together such an effect upon the animal, that it made its long leaps across the field as fast as it could. The Indian pursued it with all his might. The noise he made in running

frightened the Frog: probably it was afraid of being tortured with fire again, and therefore it redoubled its leaps, and by that means reached the pond, which was fixed on as their goal, before the Indian could overtake it.

The women are no friends to these Frogs, because they kill and eat young ducks and goslings; and sometimes they carry off chickens that venture too near the ponds.— During winter they remain in a torpid state under the mud, and in spring they commence their bellowings.

They are edible, and have frequently as much meat on them as a young fowl.—A few years ago, some of them were brought alive into this country.

THE GREEN TREE-FROG *.

Were it not from the deeply rooted prejudices which are imbibed, during childhood, against all the animals of the Frog tribe, the beauty of colour, and the elegance of motions of the present species are such, that it would afford delight to every beholder. During the summer months it resides principally on the upper branches of the trees, where it wanders among the foliage in quest of insects.

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* Description. This Frog is small, and of slender and very elegant shape. All its upper parts are green, and the abdomen is is whitish, marked by numerous granules. The under surface of the limbs are reddish; and on each side of the body there is a longitudinal blackish or violet-coloured streak. The body is smooth above, and the hind legs are very long and slender. At the end of each toe there is a round, fleshy, concave apparatus, not unlike the mouth of a leech, by means of which the animal is enabled to adhere even to the most polished surfaces.

Synonyms. Rana arborea. *Linn.*—Rana bilineata. *Shaw.*—La Reine vert, ou commune. *La Cepede.*—Green Tree-Frog. *Catesby.*—*Shaw's Gen. Zool. vol.* iii. *tab.* 38.

These it catches with great dexterity, stealing softly towards them as a cat does towards a mouse, till at a proper distance, when it makes a sudden spring upon them, of frequently more than two feet in height.—It often suspends itself by its feet, or abdomen, to the under parts of leaves; and, in this position, remains concealed among the foliage.

The skin of the abdomen is covered with small glandular granules, of such a nature as to allow the animal to adhere as well by these as by the toes. It will even stick to a glass, by pressing its belly against it.

Although during summer it inhabits the woods, yet, about the end of autumn, it retires to the waters, and lies concealed in a torpid state, in the mud or under the banks, till the spring. At the return of warm weather, it emerges, like the rest of its tribe, in order to deposit its spawn in the water. This is done about the end of April, or the beginning of May; and, as soon as the operation is over, the animals return to their accustomed haunts in the trees. The offspring continue until the month of August in their tadpole state.

During the breeding season the male inflates his throat in a very surprising manner, so indeed as to form a tolerably large sphere beneath his head. He then also exerts a very rough croak, that may be heard to a vast distance. Whenever one of them begins, all that are within hearing join in the discordant chorus; and the whole is so loud, as almost to resemble the noise of a pack of hounds: this, in still evenings, especially just before rain, when they most exert themselves, has been plainly heard nearly three miles. They are said to be so excellent as barometers, that, if kept in glasses in a room, and supplied with proper food, they will afford a sure presage of changes in the weather.

In order to make some observations on the respiration of

the Reptile tribe, Dr. Townson had, among others, some Tree-Frogs. He kept them in a window, and appropriated to their use a bowl of water, in which they lived. They soon grew quite tame; and to two that he had for a considerable length of time, and were particular favourites, he gave the names of Damon and Musidora. In the hot weather, whenever they descended to the floor, they soon became lank and emaciated. In the evening they seldom failed to go into the water, unless the weather was cold and damp; in which case they would sometimes remain out for a couple of days. When they were out of the water, if a few drops were thrown upon the board, they always applied their bodies as close to it as they could; and from this absorption through the skin, though they were flaccid before, they soon again appeared plump. A Tree-Frog that had not been in water during the night was weighed, and then immersed: after it had remained about half an hour in the bowl it came out, and was found to have absorbed nearly half its own weight of water. From other experiments on the Tree-Frogs, it was discovered that they frequently absorbed nearly their whole weight of water; and that, as was clearly proved, and is very remarkable, by the under surface only of the body. They will even absorb moisture from wetted blotting-paper. Sometimes they eject water with considerable force from their bodies, to the quantity of a fourth part or more of their own weight.

Both Frogs and Toads will frequently suffer their natural food to remain before them untouched, yet on the smallest motion it makes, they instantly seize it. A knowledge of this circumstance enabled Dr. Townson to feed his favourite Tree-Frog, Musidora, through the winter. Before the flies, which were her usual food, had disappeared in autumn, he collected for her a great quantity, as winter provision. When he laid any of them before her, she took no notice of them; but the moment he moved them

with his breath, she sprung upon and ate them. Once, when flies were scarce, the Doctor cut some flesh of a tortoise into small pieces, and moved them by the same means. She seized them, but the instant afterwards rejected them from her tongue. After he had obtained her confidence, she ate, from his fingers, dead as well as living flies.—Frogs will leap at a moving shadow of any small object; and both Frogs and Toads will soon become sufficiently familiar to sit on the hand, and be carried from one side of a room to the other, in order to catch flies as they settle on the wall.—At Gottingen Dr. Townson made them his guards for keeping these troublesome creatures from his desert of fruit, and they acquitted themselves to his satisfaction.—He has even seen the small Tree Frogs eat humble bees, but this was never done without some contest: they are in general obliged to reject them, being incommoded by their stings and hairy roughness; but in each attempt the bee is further covered with the viscid matter from the Frog's tongue, and when sufficiently coated with this, it is easily swallowed.

A Tree-Frog was kept by a surgeon in Germany for nearly eight years. He had it in a glass vessel covered with a net, and during the summer he fed it with flies; but in winter it probably did not eat at all, as only a few insects, with grass and moistened hay, were put to it. During this season it was lean and emaciated; but in summer, when its favourite food could be had in plenty, it soon again became fat. In the eighth winter it pined away by degrees, as was supposed, on account of no insects whatever being to be had.

As Captain Stedman was sailing up one of the rivers of Surinam in a canoe, one of the officers who was with him observed, in the top of a mangrove tree, a battle between a Snake and a Tree-Frog. When the captain first perceived them, the head and shoulders of the Frog were in the jaws of the snake, which was about the size of a large kitchen

poker. This creature had its tail twisted round a tough limb of the mangrove; whilst the Frog, which appeared about the size of a man's fist, had laid hold of a twig with his hind-feet. In this position they were contending, the one for life, the other for his dinner, forming one straight line between the two branches; and thus they continued for some time, apparently stationary, and without a struggle. Still it was hoped that the poor Frog might extricate himself by his exertions: but the reverse was the case. The jaws of the snake gradually relaxing, and by their elasticity forming an incredible orifice, the body and fore-legs of the Frog, by little and little, disappeared, till finally nothing more was seen than the hinder feet and claws, which were at last disengaged from the twig, and the poor creature was swallowed whole, by suction, down the throat of his formidable adversary. He passed some inches down the alimentary canal, and at last stuck, forming a knob or knot, at least six times as thick as the snake, whose jaws and throat immediately contracted, and reassumed their former natural shape. The snake being out of reach of musket shot, they could not kill him in order to make further examination, but left him, continuing in the same attitude, motionless, and twisted round the branch.

This Frog is a native of various parts of America; of France, Germany, Italy, and many other European countries, but is not found in Great Britain.

THE COMMON TOAD*.

The Toad is an animal known to every one: and by his livid appearance, and sluggish and disgusting movements, is easily recognized.

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* SYNONYMS. Rana bufo. *Linn.*—Le Crapaud commun. *La Cepede.*—*Shaw's Gen. Zool. vol.* iii. *tab.* 40.

In some countries, as at Carthagena, and Porto Bello in America, Toads are so extremely numerous, that, in rainy weather, not only all the marshy ground, but the gardens, courts, and streets, are almost covered with them; so much so, that many of the inhabitants believe that every drop of rain is converted into a Toad. In these countries this animal is of considerable size, the smallest individuals measuring at least six inches in length. If it happen to rain during the *night*, all the Toads quit their hiding places, and then crawl about in such inconceivable numbers, as almost literally to touch each other, and to hide the surface of the earth: on such occasions it is impossible to stir out of doors without trampling them underfoot at every step.

The female Toads deposit their spawn early in the spring, in the form of necklace-like chains or strings of beautifully transparent gluten, three or four feet in length, inclosing the ova in a double series throughout. These have the appearance of so many jet-black globules: they are, however, nothing more than the larvæ or tadpoles lying in a globular form, which break from their confinement in about a fortnight, and afterwards undergo changes similar to the tadpoles of the frog. They become complete towards the beginning of autumn, about which time the young animals are frequently to be seen in immense multitudes.—When they have undergone all the variations of their tadpole state, they forsake the water, and are often seen in a moist summer's evening, crawling up, by myriads, from fenny places into situations somewhat more dry. There, having found out a retreat, or each having formed one for itself, they lead a solitary life, seldom venturing abroad except in moist evenings. At this period of the year they have a sufficient supply of food, in the snails and worms with which the grass and pathways are then covered.

When it is irritated, the Toad emits from various parts of its skin a kind of frothy fluid, which, in our climate, produces no further unpleasant symptoms than slight inflammation, from its weakly acrimonious nature. Dogs, on seizing these animals, appear to be affected with a slight swelling in their mouth, accompanied by an increased evacuation of saliva. The limpid fluid which the Toad suddenly ejects from his body, when disturbed, has been ascertained to be perfectly free from any noxious qualities whatever. It is merely a watery liquor, the contents of a peculiar reservoir, that, in case of alarm, appears to be emptied in order to lighten the body, that the animal may the more readily escape. It is its extremely forbidding aspect only that has obtained for the Toad its present unjust character of being a dangerously poisonous animal. It is persecuted and murdered wherever it appears, on the supposition merely that because it is ugly it must in consequence be venomous. Its eyes are, however, proverbially beautiful, having a brilliant, reddish, gold-coloured iris surrounding the dark pupil, and forming a striking contrast with the remainder of its body. Hence Shakespeare, in Romeo and Juliet, remarks:

> Some say the Lark and loathed Toad change eyes.

Its reputation as a poisonous animal obtained for it, among the superstitious, many preternatural powers, and the reputed dealers in magic art are stated to have made much use of it in their compounds. This circumstance caused it to be inserted among the ingredients adopted by the witches in Macbeth, to raise the spirits of the dead:

> Toad that under the cold stone
> Days and nights has thirty-one
> Swelter'd venom, sleeping got,
> Boil thou first i' th' charmed pot.

It is no difficult task, singular as it may appear to those who have never attended to this animal, to render it so tame, that it may be taken up into the hand, and carried about a room to catch the flies that alight on the walls. A correspondent of Mr. Pennant supplied him with some curious particulars respecting a domestic Toad, which continued in the same place for upwards of *thirty-six* years. It frequented the steps before the hall-door of a gentleman's house in Devonshire. By being constantly fed, it was rendered so tame as always to come out of its hole in an evening when a candle was brought, and to look up, as if expecting to be carried into the house, where it was frequently fed with insects. An animal of this description being so much noticed and befriended, excited the curiosity of all who came to the house, and even females so far conquered the horrors instilled into them by their nurses, as generally to request to see it fed. It appeared most partial to flesh maggots, which were kept for it in bran. It would follow them on the table, and, when within a proper distance, would fix its eyes and remain motionless for a little while, apparently to prepare for the stroke, which was instantaneous. It threw out its tongue to a great distance, and the insect, stuck by the glutinous matter to its tip, was swallowed by a motion quicker than the eye could follow. After being kept above thirty-six years, it was at length destroyed by a tame raven, which one day, seeing it at the mouth of its hole, pulled it out, and so wounded it, that it died in consequence.

The spider was formerly considered an inveterate enemy to the Toad; and it has been said, that, whenever these animals met, a contest always took place, in which, from its superior dexterity and address, the former often proved victorious. If this relates to the European spiders and Toads, it is, most assuredly, devoid of foundation.

Like the rest of the animals of its tribe, the Toad becomes torpid towards the conclusion of the autumn, and remains so during all the winter months. The place of its retreat is either in the cleft of some rock, under the hollow root of a tree, or amongst the mud at the bottom of stagnant pools. It is long-lived; and so extremely difficult to be killed, that though its body be covered with lacerations, it will continue to exhibit signs of life for many hours afterwards.

Of the Toad we have a property recorded, more astonishing than what is mentioned of most other animals, that of continuing alive for centuries, enclosed in solid substances. Although some allowances should be made for that natural love of the marvellous which pervades the great mass of mankind, yet we have too many respectable authorities for the fact, and too frequent instances of its recurrence, to allow us to doubt its truth.

For the amusement of the reader, I shall cite a few of the best authenticated of these.—In the year 1719, M. Hubert, Professor of Philosophy at Caen, was witness to a living Toad being taken from the solid trunk of an elm tree. It was lodged exactly in the centre, and filled the whole of the space that contained it. The tree was in every other respect perfectly firm and sound.—Dr. Bradley saw a Toad taken from the trunk of a large oak.—In the year 1733, a living Toad was discovered by M. Graburg, in a hard and solid block of stone, which had been dug up in a quarry in Gothland. On being touched with a stick upon the head, he informs us that it contracted its eyes, as if asleep, and, when the stick was removed, gradually opened them. Its mouth had no aperture, but was closed round by a yellowish skin. On being pressed with the stick on the back, a small quantity of clear water issued from it behind, and it immediately died. A living Toad was found in a block of marble at an old castle belonging to

Lord Tankerville, twelve miles from Alnwick in Northumberland.—A stone-cutter of the name of Charlton, found in the Isle of Ely a living Toad, enclosed in a block of marble. The cavity in which it was contained was somewhat larger than, but nearly of the figure of, the animal. The Toad seemed in perfect health, although the marble was, on all sides, several inches thick.

THE PIPA, OR SURINAM TOAD*.

This creature, in the production of its offspring, affords a very singular deviation from the usual course of nature. On the back of the female are formed certain cavities, opening outward, and somewhat resembling the cells of a bee-hive. They are of a circular form, about half an inch deep, and each nearly a quarter of an inch in diameter. They are at a little distance from each other, and somewhat irregularly ranged. At a certain period of incubation, if it may be so called, in each of these cells is found a little live toad, an exact miniature in all respects of its parent; but how it finds subsistence there, (for the creature has no adhesion to the parent, but may be easily

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* DESCRIPTION. The Pipa, which is a native of Surinam, is at first view an extremely hideous and deformed animal. It is considerably larger than our toad, has a flattish body, and a somewhat triangular head. The mouth is very wide, and furnished at the edges or corners with a kind of cutaneous appendage. The fore-feet have four long and thin toes, each divided at the tip into four distinct parts, which, when inspected with a magnifier, are found to be each again obscurely subdivided almost in a similar manner. The hind-feet have five toes united by a web. The male and female are so different in appearance from each other, as frequently to be mistaken for different species.

SYNONYMS. Rana Pipa. *Linnæus.*—Le Pipa, ou Cururu. *La Cepede.*—*Shaw's Gen. Zool. vol.* iii. *tab.* 50, 51.

taken out, as from a case, and again replaced without injury,) does not seem as yet to be fully ascertained. Mr. Ferman, who has described this animal, declares himself to have been an eye-witness to the procedure. The eggs are generated within the female, who, when they have attained the proper degree of maturity, drops them on the ground. The male amasses together the heap, and deposits them, with great care, on the back of the female, where, after impregnation, they are pressed into the cellules, which are at that period open for their reception, and which afterwards close over them. The ova remain in the cellules until the second birth, which takes place in somewhat less than three months, when the young ones emerge from the back of the parent, completely formed. During the time of concealment, they undergo the usual change of the rest of the genus, into the tadpole state, which they entirely put off before their final extrusion.— After all the young ones are come forth, the female rids herself of the cells, and at the same time of part of her skin, by rubbing herself against stones or vegetables, and the injured skin is soon renewed by a fresh growth.

In this singular production of its young, the Pipa seems to bear considerable analogy to the different species of opossum.

Ferman says, that the Pipa is only calculated for having one breed. The number of young ones produced by a female that he observed, was seventy-five; and they were all perfected in the pace of five days after they first appeared.

It would seem that the flesh of this Toad is not unwholesome, as, according to Madame Merian, the negroes of Surinam eat of it with pleasure, and suffer no inconvenience from its use.

OF THE LIZARD TRIBE*.

The animals of this tribe are distinguishable at first sight from other oviparous quadrupeds. They have no shields, like the tortoises, and are all furnished with tails, which are entirely wanting in toads and frogs. Their bodies are either covered with scales, of greater or less rigidity, or with a kind of warts or tubercles. Some of the species are scarcely more than two inches in length, whilst others exceed even the length of five or six and twenty feet.

Their tails at the base, are nearly as thick as the hinder part of the body from which they arise. In some species these are flat; in others rounded: in some short and thick, and in others more than thrice as long as the body, and tapering to a slender point. The tail of the chameleon is *prehensile*, that is, the animal can coil it fast round any object, in order to prevent itself from falling.

The Lizards are principally inhabitants of the warmer regions of the globe. The larger ones live on animals, which they seize by stratagem, and the smaller ones on insects. Many of them serve mankind for food. The aquatic species undergo a metamorphosis, from a tadpole to a perfect state. Most of them are produced from eggs externally, but some are brought forth alive. In this tribe are found nearly the largest and the smallest animals in the creation.

Although in many of the species the colour and form are exceedingly beautiful, these animals, like the toad, have obtained the general character of being poisonous. The whole tribe, however, (except one species, the Spitting Lizard †, which, when irritated, discharges a black and

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* These animals have each four legs and a tail.

† *Lacerta Sputator* of Linnæus.

acrid matter, easily cured by camphorated spirits of wine,) is destitute of poison.

THE CROCODILE*.

As Nature seems to have appointed the lion to the dominion of the immense deserts of the torrid zone; the eagle to rule as sovereign of the air; and has committed the government of the seas to the whale: so she seems to have appointed the Crocodile and the alligator to rule over the shores of the immense rivers of tropical climates. Living, as it were, on the confines both of land and water, these enormous animals extend their dominion equally over the inhabitants of both elements. Here they enjoy an absolute rule, and dread none of the common dangers which assault other less powerful animals.

If we except the elephant, the hippopotamus, the whale, and some of the enormous serpents, these are the largest animals that have yet been discovered. Some of them have been known to attain the length of twenty-five feet and upwards; and, probably, like fishes, their bulk continues to increase during their whole life.

The Crocodile has no lips; so that even when walking or swimming with the utmost tranquillity, the teeth are bare, and the aspect seems animated by rage. Another circumstance that contributes to increase the terrific appearance of its countenance, is the fiery glare of the eyes; and these, being situated near each other, have also a malignant aspect.

The armour with which the Crocodile is clad, may be

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* SYNONYMS. Lacerta Crocodilus. *Linn.*—Le Crocodile proprement dit. *La Cepede.*—Cayman. *Bosman.*—Nilotic Crocodile, Common Crocodile. *Shaw.*—*Shaw's Gen. Zool. vol.* iii. *tab.* 55, 56, 57.

accounted among the most elaborate pieces of Nature's mechanism. In the full-grown animal it is so strong, as easily to repel a musquet ball. On the lower parts it is much thinner and more pliable than on the upper. The whole animal appears as if covered with the most regular and curious carved work. The colour of the full-grown Crocodile is blackish-brown above, and yellowish-white beneath. The upper parts of the legs and sides are varied with deep yellow, somewhat tinged with green. The mouth is of vast width, and furnished with numerous sharp-pointed teeth, thirty or more on each side of the jaws; and these are so disposed, as when the mouth is closed, to fit alternately above and below.

The Crocodile and alligator have the largest mouths of almost any land animals. It has been asserted by various writers, that both their jaws are moveable. A single glance, however, at the skeleton, will afford sufficient proof, that the upper jaw is fixed, and that the motion is altogether confined to the under one. They are also generally believed to have no tongue. This again is an error, for the tongue in both species is larger than that of the ox; but it is so connected with the sides of the lower jaw, as to be incapable of being stretched far forward, as in other animals.

In the water the Crocodile seems to enjoy his whole strength with much greater advantage than on land. In spite of his size, and his apparent unwieldiness, he moves about in the water with considerable agility, oftentimes emitting a kind of silent, half-suppressed murmuring noise. Although the great length of his body prevents him from turning suddenly round, he swims forward with astonishing velocity when about to seize his prey. On land its motions are much more embarrassed, and he is consequently there a less dangerous enemy.

Except when pressed by hunger, or with a view of

depositing its eggs, this enormous creature seldom leaves the water. Its usual method is to float along upon the surface, (where it appears like a large piece of floating wood,) and seize whatever animals come within its reach; but, when this method fails, it then goes closer to the bank. There it waits in patient expectation of some land animal that may come to drink; the dog, the bull, the tiger, or man himself. Nothing is to be seen on the approach, nor is its retreat discovered till it is too late for safety. It seizes the victim with a spring, and goes at a bound much farther than such an unwieldy animal could be supposed capable of doing. Then having secured the prey, it drags it into the water, instantly sinks with it to the bottom, and, in this manner, quickly drowns it. Sometimes it happens that the creature wounded by the Crocodile makes its escape; in which case, the latter pursues and often takes it a second time. He seldom moves far from rivers, except in covert and marshy places; so that, in many parts of the East, it is very dangerous to walk carelessly on the banks of unknown rivers, or among sedgy grounds; and still more so to bathe, without the utmost circumspection, in unfrequented places.

All the rivers of Guinea are pestered with vast shoals of Crocodiles. On hot days, great numbers of them lie basking on the banks of rivers, and as soon as they observe any one approach, they plunge into the water.—M. Adanson says, that in the great river Senegal, on the western coast of Africa, he has sometimes seen more than two hundred of them swimming together, with their heads just above water, resembling a great number of trunks of trees floating down the river.—In the neighbourhood of Thebes, the small boat, in which M. Sonnini sailed up the river, was often surrounded by Crocodiles on a level with the surface. They observed the boat pass by them, but

with apparent indifference, discovering neither fear nor any cruel intention at its approach.

The French soldiers in Egypt are stated to have set the Crocodiles at defiance. They were not once attacked by them, nor did they ever meet with a Crocodile at a distance from the river. It is probable that these animals find in the Nile itself a sufficient quantity of food, which is not difficult to be procured, and which, as in all other cold blooded animals, they digest very slowly.

The young of the Crocodile are produced from eggs deposited in the sand, and hatched by the heat of the sun, near the bank of some river or lake. The female is said to be extremely cautious in depositing them unobserved. The general number is from eighty to a hundred. They are not larger than those of a goose, and are covered with a tough white skin. She fills up the hole carefully before she leaves them. In each of the two succeeding days she lays as many more, which she hides in the same manner. The eggs are hatched generally in about thirty days. The fetus of Crocodiles are rolled up within the egg, and at the time when they break the shell, seldom exceed six or seven inches in length. They sometimes do this with their head, and sometimes with the serrated tubercles on the back. When they first come forth, they drag about with them the remains of the yolk, attached to the umbilical cord, and surrounded by its proper membrane, together with a kind of after-burthen, in which they had been enveloped whilst within the shell. These young ones immediately run into the water, where multitudes of them are devoured by various kinds of fish, and even by the larger animals of their own species. It is, however, in the destruction of their eggs, that the most material service to mankind is effected. The ichneumon* and the vultures,

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* *Viverra ichneumon* of Linnæus.

(the latter of which, in hot climates, collect in immense numbers,) seem peculiarly appointed by Providence to abridge the enormous fecundity of the Crocodiles, and in this capacity destroy and devour millions of their eggs.

The Crocodile, from its immense size and voracious habits, is doubtless an object of fear; and, by no very uncommon transition of sentiment, has also gradually become an object of veneration; and offerings are in some countries made to it as to a deity. The inhabitants of Java, when attacked by disease, will sometimes build a kind of coop, and fill it with such eatables as they think most agreeable to the Crocodiles. They place the coop upon the bank of a river or canal, in perfect confidence that, by the means of such offerings, they shall be freed from their complaints; and persuaded that, if any person could be so wicked as to take away those viands, such person would draw upon himself the malady, for the cure of which the offering was made. The worship of Crocodiles was indeed a folly among men of ancient date; as Herodotus expressly says, that "among some of the Egyptian tribes, the Crocodiles are sacred, but that they are regarded as enemies among others. The inhabitants in the environs of Thebes, and the Lake Mœris, are firmly persuaded of their sanctity; and both these tribes bring up and tame a Crocodile, adorning his ears with rings of precious stones and gold, and putting ornamental chains about his fore-feet. They also regularly give him victuals, offer victims to him, and treat him in the most respectful manner while living, and, when dead, embalm, and bury him in a consecrated coffin."

The king of Saba, on the slave coast of Africa, at this day, has always two ponds filled with Crocodiles. In the Rio San Domingo, likewise, on the western coast of Africa, M. Brüe was astonished to find the Crocodiles, usually considered such ferocious animals, perfectly harmless,

insomuch, that the children played with them, mounted on their backs, and even beat them, without danger, or any appearance of resentment. This gentleness of disposition, he says, proceeds from their being kept always full fed, and from the attention paid to them by the natives; for in all other parts of Africa, they attack indiscriminately men and animals.

The eggs, and the flesh of the Crocodile, particularly that of the tail and belly, are used as food by the Negroes of Africa, and of several of the Indian nations. This flesh is white and juicy, and is considered by these people as peculiarly delicious. But such Europeans as have ventured to eat of it, have been, for the most part, disgusted by the strong musky flavour with which it is impregnated.

One of the greatest curiosities in the fossil world, which the late ages have produced, is the skeleton of a large Crocodile, almost entire, that was found at a great depth underground, bedded in stone. This was in the possession of Linkius, who wrote many tracts on natural history, and particularly an accurate description of this curious fossil. It was found in the side of a large mountain in the midland part of Germany, in a stratum of black fossil stone, somewhat like our common slate, but of a coarser texture, the same with that in which the fossil fish in many parts of the world are found. This skeleton had the back and ribs very plain, and of a much deeper black than the rest of the stone. The part of the stone where the head lay was not found: it was irregularly broken off just at the shoulder, so as, however, in one place, to leave part of the back of the head in its natural form. The two shoulder-bones were very perfect, and three of the feet well preserved; the legs were of their natural shape and size, and the feet were

preserved, even to the extremities of the five toes of each.— The whole skeleton of a Crocodile was found underground, some years ago, in Nottinghamshire.

THE ALLIGATOR, OR AMERICAN CROCODILE *.

Alligators are natives of the warmer parts of America; and had it not been for an accidental occurrence, these inhabitants of the New World would never have been known by any other name than that of Crocodile: for, if the first navigators had seen any object that more resembled their form than a lizard, they would have adopted that by which the Indians call them, the *Cayman;* but the Spanish sailors remarking their great resemblance to that little reptile, they called the first of them which they saw, *Lagarto*, or Lizard. When our countrymen arrived, and heard that name, they called the creature *a-Lagarto*, whence was afterwards derived the word *Alligato*, or Alligator.

Alligators are often seen floating on the surface of the water like logs of wood, and are mistaken for such by various animals, which by this means they surprise, and draw underneath to devour at leisure. They are said also sometimes to form a hole in the bank of a river, below the surface of the water, and there to wait, till the fish, that

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* Description. The principal distinction betwixt the Alligator and the Crocodile, is that the former has its head and part of the neck more smooth than the other, and that the snout is considerably more wide and flat, as well as more rounded at the extremity. The length of the full-grown Alligator is seventeen or eighteen feet.

Synonyms. Lacerta Alligator. *Linn.*—Jacare. *Marcgrave.*—Crocodile. *La Hontan.*—Lacertus Maximus. *Catesby.*—American Crocodile.—*Shaw's Gen. Zool. vol.* iii. *tab.* 59.

are fatigued with the strong current, come into the smooth water near, in order to rest themselves, when they immediately seize and devour them. But since they are not able to obtain a regular supply of food, from the fear in which they are held by all animals, and the care with which these, in general, avoid their haunts, they are able to sustain a privation of it for a great length of time. When killed and opened, stones and other hard substances are generally found in their stomach. In many that Mr. Catesby examined, there was nothing but mucilage and large pieces of wood, some of which weighed seven or eight pounds each: the angles were so worn down, that he fancied they must have lain there for several months. Two Alligators that Dr. Brickell saw killed in North Carolina, had in their bellies several sorts of snakes, and some pieces of wood; and in one of them was found a stone, that weighed about four pounds.

The voracity of these animals is so great, that they sometimes do not spare even mankind. A short time before M. Navarette was at the Manillas, he was told that, as a young woman was washing her feet in one of the rivers, an Alligator seized and carried her off. Her husband, to whom she had been but that morning married, hearing her screams, threw himself headlong into the water, and with a dagger in his hand, pursued the robber. He overtook, and fought him with such success, as to recover his wife: but, unfortunately for her brave rescuer, she died before she could be brought to the shore.

Where Alligators are very numerous, they will sometimes attempt to get into the canoes or boats that pass their haunts during the night, in order to destroy the passengers. M. de la Borde, at Cayenne, says, he has seen them attempt to raise themselves against the sides of small boats in the river.—He informs us also, that the Alligators which inhabit the lakes of South America, are sometimes

left dry, in consequence of the water evaporating. In this case they are forced to subsist by catching birds or land animals, or even to live a long time without food.

We are informed by Dampier, that the Alligators about the Bay of Campeachy, (probably from their having a full supply of food,) are by no means so ferocious as they are represented to be in other places. He never knew them attack a man; but he has often seen them run away from his sailors. He has drank out of a pond full of them, where the water was not even deep enough to cover their backs, and the pond itself so small, that he could get no water but by coming within two yards of an Alligator's nose, the animals lying all the while with their heads towards him. Dampier and some of his men were one day passing through a swamp, two or three feet deep in water, when they perceived the strong scent of an Alligator. Presently afterwards he stumbled over one and fell down. He called out loudly to his companions for assistance, but they ran off, as fast as their legs would carry them, towards the woods. He had no sooner recovered himself, than he stumbled over the animal a second, and afterwards a third time; but at last, though in the animal's own element, he got off in safety. This adventure had, however, such an effect upon him, that he never again went through any extensive water whilst he remained in the Bay of Campeachy.

The Alligators deposit their eggs, like the crocodile and turtles, at two or three different periods, laying from twenty to about twenty-four at each time. It is said that those of Cayenne and Surinam raise a little hillock on the bank of the water, and, hollowing this out in the middle, amass together a heap of leaves and other vegetable refuse, in which they deposit their eggs. These being also covered up with leaves, a fermentation ensues, by the heat of which, in addition to that of the atmosphere, the eggs are

hatched.—The animals generally lay their eggs in the month of April. Multitudes of these are destroyed by the vultures, and immense numbers of the young animals are devoured, as soon as they reach the water, by the various species of fish.

It appears, that the Alligator, when caught young, may, in some measure, be domesticated. Dr. Brickell saw one in a large pond before a planter's house. It remained near half a year, during which time it was regularly fed with the entrails of fowls, and raw meat. It frequently came into the house, where it would remain for a short time, and then return again to its shelter in the pond. It is supposed at last to have stolen away to a creek near the plantation; for it was one day missing, and from that time was never afterwards seen.

The voice of these animals is very loud and dreadful, being stronger than the roar of a bull. They have an unpleasant and very powerful musky scent. M. Pagés says, that near one of the rivers in America, where the Alligators were very numerous, the effluvia was so strong as to impregnate his provisions, and even to give them the nauseous taste of rotten musk.—This effluvia proceeds chiefly from four glands, two of which are situated in the groin, near each thigh, and the other two at the breast, one under each fore-leg. Dampier informs us, that when his men killed an Alligator, they generally took these out, and after having dried them, wore them in their hats by way of perfume.

The teeth of Alligators are as white as ivory; and snuff-boxes, chargers for guns, and several kinds of toys, are manufactured from them. The flesh of the young animals is said to be white, and tolerably palatable; but that of the old ones, although it is eaten by many of the American tribes, is, from its strong scent, extremely unpleasant to an European palate.

THE COMMON GUANA *.

In disposition, this species, which feeds altogether on insects and vegetables, is extremely gentle and harmless. Its appearance, however, is much against it, especially when agitated by fear or anger. Its eyes seem on fire; it hisses like a serpent, swells out the pouch under its throat, lashes about its long tail, erects the scales on its back, and holds its head, covered over with tubercles, in a menacing attitude. The usual places of its habitation or retreat, are the clefts of rocks, or the hollows of trees; and although it is not naturally a resident in the water, yet on necessity, it will continue immersed for a great length of time. In swimming, it keeps its legs pressed close to its body, and urges itself forward only by means of its tail.

The Guana, for an animal of its size, is tolerably quick in all its motions; but it climbs into the trees, and even among the highest branches, with astonishing agility. Around these it will oftentimes entwine itself, concealing its head in some of the various foldings of its body.

The females are smaller than the males; their colours and proportions more agreeable, and their appearance more gentle and pleasing. These usually quit the woods

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* DESCRIPTION. This animal grows to the length of four or five feet. The tail is long and round; the back serrated; and the crest denticulated. The individuals vary greatly in colour, but their prevailing tinge is a brownish green. Under the chin they have a pouch capable of great inflation, and by which alone they are easily distinguished from other Lizards.

SYNONYMS. Lacerta iguana. *Linn.*—L'Iguane. *La Cepede.*—Leguana. *Leba.*—Great American Guana. Common Guana. *Shaw.*—*Shaw's Gen. Zool. vol.* iii. *tab.* 61.

or mountains about two months after the end of winter, for the purpose of depositing their eggs in the sand of the sea shore. The eggs are always unequal in number, from thirteen to twenty-five. They are longer, but not thicker than pigeons' eggs. The outer covering is white and flexible. Most travellers say, that these eggs give an excellent relish to sauces, and that their taste is preferable to that of poultry eggs.

The male, during the spring of the year, exhibits great attachment towards the female. Throwing aside his usual gentleness of character, he defends her even with fury, attacking, with undaunted courage, every animal that seems inclined to injure her; and at this time, though his bite is by no means poisonous, he fastens so firmly, that it is necessary either to kill him, or to beat him with great violence on the nose, in order to make him quit his hold.

The Guana is not killed without difficulty by blows, or even by wouuds from fire-arms; but it dies almost instantaneously if even a straw be put up his nostrils. This occasions the flow of a few drops of blood, after which the animal expires.

The stupidity or apathy with respect to danger, which has been attributed to the Guana, is so great, that it is easily caught alive. Its flesh constitutes a principal food of the natives of the Bahama Islands, and of several parts of America, and it is hunted by dogs that are trained for the purpose. It is, however, likewise, easily ensnared, as we find by the following artifice, mentioned by Labat. "We were attended (he says) by a negro, who carried a long rod, at one end of which was fastened a piece of whipcord, with a running knot. After beating the bushes for some time, the negro discovered our game, basking in the sun, on the dry limb of a tree. On this he began whistling with all his might; to which the Guana was wonderfully attentive, stretching out his neck, and turning

his head, as if to enjoy it more fully. The negro now approached, still whistling: and, advancing his rod gently, began tickling, with the end of it, the sides and throat of the Guana, which seemed mightily pleased with the operation; for he turned on his back, and stretched himself out like a cat before the fire, and at length fairly fell asleep. The negro perceiving this, dexterously slipped the noose over his head, and with a jerk brought him to the ground." —Notwithstanding, however, the apparent stupidity and gentleness of the Guana, it no sooner finds itself ensnared, than it assumes a great degree of violence. It becomes extremely agitated; the pouch of its throat swells with rage, its eyes glisten, and it extends its wide jaws. But all its efforts are now useless, for the hunter, pressing it to to the ground, with his whole strength, holds it fast, till he has tied its mouth and legs in such manner, that it is no longer capable either of defence or flight. As soon as the animals are thus secured, their mouths are sewed up, to prevent them from biting; and some of them are carried alive from the Bahama Islands to Carolina, for sale; others are salted and barrelled by the natives, for home consumption.

According to the account given by Browne, the flesh of the Guana, when properly dressed, is preferable to that of poultry. That of the females is reckoned the most delicate. It is sometimes eaten roasted, but more commonly boiled, the fat being first taken out, which the natives melt and clarify for various uses. It is a singular fact, that the fat of the abdomen always assumes the colour of the food which the animal has last eaten.

These animals are easily domesticated when taken young: Dr. Browne had a full grown Guana about his house more than two months: for some days it continued to indicate symptoms of great ferocity; but it at last grew so tame, that it used to pass the greatest part of the day

upon his bed or couch. It was always suffered to go out at night. As it walked along it frequently threw out its long forked tongue; but Dr. Browne says, that during all the time he had it, he never observed that it ate any thing.

The Guana is a very common animal in Surinam; in the woods of Guiana; in Cayenne and Mexico: but it is now become scarce in the West Indies, in consequence of its being much sought after there for the table. It is likewise found, in considerable numbers, in many parts of the Old World, both in Africa and Asia.

THE NIMBLE LIZARD *.

This elegant little creature, which is known in almost every part of the temperate regions of Europe, seems to be the most gentle and inoffensive, and, at the same time, the most useful of all the Lizard tribe. It is fond of basking in the sun; but, unable to bear excessive heat, in the hottest weather it seeks for shelter. In spring, during fine weather, it may sometimes be seen luxuriously extended on a sloping green bank, or on a wall exposed to the sun. In these situations it enjoys the full effects of the reviving warmth; expressing its delight by gently agitating its slender tail; and its lively and brilliant eyes are animated with pleasure. Should any of the minute animals, on which

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* Description. The nimble Lizard, one of the British species, measures in length, from the tip of the nose to the end of the tail, about six inches and a half. The upper part of the head is light brown, and the back and tail are variously striped and spotted with light brown, black, white, and dark brown. The under parts of the body are of a dirty white.

Synonyms. Lacerta agilis. *Linn.*—Le Lezard gris. *La Cepede.*—Little brown Lizard. *Edwards.*—Scaly Lizard. *Penn.*—Nimble Lizard. *Kerr's La Cepede.*—*Penn. Brit. Zool. vol.* iii. *tab.* 2.

it feeds, appear, it springs upon them with the quickness of thought; and if any danger occurs, the little creature itself seeks a more secure retreat with equal rapidity. On the least noise it turns suddenly round, drops down, and seems, for a moment, perfectly stupified by its fall: or else it suddenly shoots away among the bushes or thick grass. Its wonderful rapidity of motion is chiefly to be observed in warm countries, for in the temperate regions its evolutions are much more languid.

This gentle and peaceful animal excites no sensations of terror; and, when taken into the hand, makes not the smallest attempt either to bite or offend. In some countries, children use it as a play-thing; and, in consequence of its natural gentleness of disposition, it becomes, in a great measure, tame and familiar.

The tail is nearly twice the length of the body, and tapers from the root to the extremity, where it ends in a sharp point. This, from the weakness of the vertebræ, is so brittle as often to snap off on the least roughness in handling. In this case it is, however, sometimes reproduced. When the tail has been split or divided lengthways, it has been known that each of the portions, in healing, has rounded itself, and thus the animal has had a double tail. One of these has contained the vertebræ, and the other only a kind of tendon in the centre.

For the purpose of seizing the insects on which it feeds, the Nimble Lizard darts out, with astonishing velocity, its forked tongue. This is of a reddish colour, and is beset with asperities which are scarcely sensible to the sight, but which assist very materially in catching its winged prey.—Like most other oviparous quadrupeds, it is capable of existing for a long time without food. Some of them have been kept in bottles, without any nourishment, for upwards of six months.

In the southern countries of Europe, the Nimble Lizard

revives, very early in the spring, from the torpid state in which it had passed the cold weather of the winter; and, recovering its activity, begins its sportive evolutions. In the beginning of May, the female deposits her eggs, which are nearly spherical, and about five lines in diameter, in some warm situation; as, for instance, at the foot of a wall fronting the south. Here they are hatched by the heat of the sun.

Previously to laying the eggs, both male and female change their skins, which they again do about the beginning of winter.—They pass that season in a state of torpor, more or less complete, according to the rigour of the climate, either in holes of trees, in walls, or in subterraneous places.

This little animal seems occasionally to lay aside its natural gentleness and innocence of disposition; still, however, no further than for the purpose of obtaining food. Mr. Edwards once surprised a Nimble Lizard in the act of fighting with a small bird, as she sate on her nest in a vine against the wall, with newly-hatched young. He supposed the Lizard would have made them a prey, could he but have driven the old bird from her nest. He watched the contest for some time; but, on his near approach, the Lizard dropped to the ground, and the bird flew off.

THE GREEN LIZARD *.

This very beautiful animal is found in various situations, in gardens, about warm walls, sunny banks, and old buildings, throughout all the warmer parts of Europe; and,

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Description. The Green Lizard, and the Nimble Lizard, are considered by Dr. Shaw as varieties of the same species. The latter, however, sometimes attains a very large size, measuring two feet or upwards in length, although its general length is not more than fif-

although it is not found in our own country, it seems generally dispersed over the Continent.

In its manners it is equally mild and gentle with the Nimble Lizard; and if taken young may, to a certain degree, be tamed. On this account, and from its extremely beautiful appearance, it is usually considered a favourite animal. In Sweden and Kamtschatka, however, it is looked upon by the inhabitants with horror. The Kamtschadales consider it as sent by the infernal deities, and are anxious to cut it to pieces whenever they meet with it.

Notwithstanding the generally peaceful disposition of the Green Lizards, they may easily (when in confinement) be excited to fight, and they then bite each other with great fury. They sometimes contend with serpents, but rarely with success, generally falling a victim to the unequal combat. When this animal observes the approach of a serpent, it is extremely agitated, and runs about apparently with great fear. Some persons, inclined to interpret every thing favourably in the character of so beautiful an animal, have considered these indications of fear as marks of attention and of attachment to mankind; as if it meant, thereby, to give them notice of the dangerous presence of a serpent.—When driven to extremity, it will sometimes defend itself even against the attacks of dogs. It springs instantly at the muzzle of the assailant, where it

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teen inches. Its colours are more brilliant and beautiful than those of any other European Lizard, exhibiting a rich and varied mixture of darker and lighter green, interspersed with specks and marks of yellow, brown, blackish, and even sometimes red. The head is covered with large angular scales; and the rest of the upper parts with very small ones. The tail is generally much longer than the body. Beneath the throat there is a kind of collar, formed by scales much darker than the rest.

SYNONYMS. Lezard Vert. *La Cepede.*—Stellion, in Italy.—Green Lizard. *Shaw.*

often fixes itself so obstinately, that it will allow itself to be carried off, and even killed, rather than quit its hold. It is not, however, to be considered a dangerous reptile, notwithstanding some people have groundlessly attributed to it the property of giving pernicious if not mortal bites. This fact has been ascertained by numerous and well-authenticated experiments.

It feeds principally on insects and earth-worms; and is, in every respect, a most active animal, pursuing, with wonderful celerity, its insect prey, and escaping with great readiness from pursuit when disturbed. It devours the eggs of small birds, for which purpose it climbs with agility into the highest branches of trees.

It runs with great swiftness; and its first motions, when it springs from among bushes or dry leaves, are often so rapid, as to excite sensations of surprise, or even of fear.

THE GREEN LIZARD OF CAROLINA*.

These are very useful animals about the houses in Carolina, in consequence of their destroying flies, and other troublesome and noxious insects. It is scarcely credible with what industry, agility, and dexterity they lie in ambush for, follow, and seize their prey. They will sometimes remain motionless for half a day, waiting for the insects on which they feed; and, when one appears, they spring at it with the swiftness of an arrow. So familiar are they, that they enter the rooms of the houses without fear, and, in pursuit of insects, mount the tables whilst people

* Dr. Shaw describes this as a variety of *Lacerta bullaris* of Linnæus; and La Cepede, of *Lacerta agilis*.—It seldom exceeds the length of five inches. The general colour is bright green; some of the individuals appearing as if adorned with gold and silver, while others again are of a fine golden green.

are eating, and even leap after them on persons' clothes. They are so cleanly and so beautiful, that they are suffered to run over the tables and the plates without exciting the smallest disgust.

This little animal has every quality that can delight the eye, or interest the beholder in its favour. It is beautiful, active, useful, patient, and industrious: it is, however, extremely delicate, and never appears abroad except during the summer season, at least in latitudes even but little distant from the Tropics. On the approach of cold weather it retreats to some recess in the hollows or crevices of decayed trees, where it lies in a torpid state through the winter.

The skin of these Lizards is so delicate as scarcely to conceal the internal changes to which they are subject; for they change colour, like the chameleon, according to the state of their health, or, perhaps more properly speaking, according to the temperature of the atmosphere. In a hot day they are usually of a green colour; but if, on the day following, the weather becomes chill, the same animals will oftentimes appear quite brown.

The freshness and brilliancy of colour in this Lizard entirely disappears after death, when its skin becomes pale and livid.

The female deposits her eggs, each of which is about the size of a pea, in the earth; covering them slightly over, and leaving them to be hatched by the heat of the sun.

THE CHAMELEON*.

There are not many animals of the present class which have attained greater celebrity than the Chameleon; having

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* SYNONYMS. Lacerta Chamæleon. *Linn.*—Le Caméleon. *La Cepede.*—*Shaw's Gen. Zool. vol.* iii. *tab.* 76.

from the earliest periods been metaphorically employed to denote the most abject flattery. It has been considered as always deriving its colour from the object on which it was placed, and as having no colour of its own. In this creature, thus accommodating itself to present circumstances, mankind beheld a striking representation of the generality of courtiers. They therefore employed it as a subject of comparison for those cringing wretches who, having no opinion of their own, bend themselves into every possible form, and feed themselves only with fruitless and vain expectations; for the Chameleon also was believed to live only on air. This last notion, however, is by no means correct; and it seems to have arisen merely from the circumstance of the animals, like all others of their class, being able to subsist for a great length of time without any food whatever.

The Chameleon is a native of India, the Indian Islands, Africa, and some of the warmer parts of Spain and Portugal, as well as of several of the countries of South America. Its usual length is about ten inches; and that of the tail is nearly the same.

Though an animal extremely ugly and disgusting in its appearance, it is perfectly harmless, feeding only on insects, for which the structure of its tongue is peculiarly adapted, being long and missile, and furnished with a dilated, glutinous, and somewhat tubular tip. By means of this it seizes upon insects with the greatest ease, darting it out, and instantaneously retracting it, with the prey secured on its tip, which it swallows whole.—The skin is covered with small warts or granulations, each about the size of a tolerably large pin's head; and, along the middle of the back, there is a row of serratures.

All the motions of this creature are extremely slow; in travelling from one branch of a tree to another, and in taking food, it may rather be said to lie in ambush among the

leaves, in order to catch such insects as may alight upon, or come within the reach of, its long adhesive tongue, than to go in search of prey. Its feet have each five toes, which are situated three one way and two another, in order to enable it to lay firmly hold of the branches; but, wherever it happens that these are too large for it to grasp them with its feet, it takes great care to coil round them its long, prehensile tail, and to fix its claws strongly into the bark. When walking on the ground it steps forward in a cautious, groping manner, seeming never to lift one foot, until it is well assured of the firmness of the rest. From these precautions, its motions have a ridiculous appearance of gravity, when contrasted with the smallness of its size, and the activity that one might expect in an animal so nearly allied to some of the most active in the creation.

The eyes of the Chameleon are each covered by a rough membrane, in appearance not much unlike chagrin, which is attached to the eye-ball, and follows all its motions. This membrane is divided by a narrow, horizontal slit, through which the bright pupil, as if bordered with burnished gold, is seen. This wonderful structure resembles a good deal the artificial defence employed by the Laplanders, and other northern nations, for defending their eyes against the excessive reflection of light from the surface of the snow, by means of a narrow slit, in a thin and hollow piece of wood. The eyes of the Chameleon have another singular property, that of looking at the same instant, in different directions. One of them may frequently be seen to move when the other is at rest; or one will be directed forward, whilst the other is attending to some object behind; or in the same manner upward and downward.

The Chameleon has likewise a power of inflating most parts of its body, so as to increase its general size, and to give a full and round appearance to such parts as are

naturally flaccid and lank. This inflation is produced by slow and irregular efforts; and proceeds occasionally to such a degree, as to double the usual size of the animal, extending even into the feet and tail. The inflation continues sometimes during two or three hours, lessening a little now and then, and again increasing; the diminution being always slower in its progress than the increase. The Chameleon is often for a great while together, entirely flaccid; and it has then so complete an appearance of leanness, that the ribs, the vertebræ of the back, and all the tendons of its legs, may be seen and counted very distinctly. In this state, especially when it turns round, it seems a mere animated skin, enclosing a few bones. This property of inflation is, however, not entirely confined to the Chameleon. It is possessed, though in a much lesser degree, by almost all other oviparous quadrupeds, but particularly by the frogs. It has been supposed to depend on a power which the animals have of causing the air to pass from their lungs, into the interstices betwixt the skin and muscles. Its peculiar use in the animal economy has by no means been satisfactorily explained. The lungs are composed of several distinct vesicles, which, when fully distended, cover almost the whole viscera; whilst, on the contrary, they are so extremely small when flaccid, that many of their vesicles escape notice. This circumstance explains the cause of some writers having described them as large, whilst others have represented them as being peculiarly minute.

With respect to the singular operation of the Chameleon changing its colour, I shall present the reader with the accounts of three persons, who state themselves to have been several times witness to it. There appears a considerable difference in the several relations; this, however, he must reconcile as well as he is able. The writers I allude to are D'Obsonville, Hasselquist, and Dr. Russel.

The colour of the Chameleon, says D'Obsonville, is naturally green, but it is susceptible of many shades, and particularly of three very distinct ones; Saxon green, deep green, and a shade bordering on blue and yellow green. When free, in health, and at ease, it is of a beautiful green, some parts excepted, where the skin, being thicker and more rough, produces gradations of brown, red, or light gray. When the animal is provoked, in open air, and well fed, it becomes blue-green; but when feeble, or deprived of free air, the prevailing tint is the yellow-green. Under other circumstances, and especially at the approach of one of its own species, no matter of which sex, or when surrounded and teased by a number of insects thrown upon him, he then, almost in a moment, takes alternately the three different tints of green. If he is dying, particularly of hunger, the yellow is at first predominant; but in the first stage of putrefaction this changes to the colour of dead leaves.

It seems that the causes of these different varieties are several: and first, the blood of the Chameleon is of a violet blue, which colour it will preserve for some minutes on linen or paper, especially on such as have been steeped in alum-water. In the second place, the different tunicles of the vessels are yellow, as well in their trunks as in their ramifications. The epidermis, or exterior skin, when separated from the other, is transparent, without any colour; and the second skin is yellow, as well as all the little vessels that touch it. Hence it is probable that the change of colour depends upon the mixtures of blue and yellow, from which result different shades of green. Thus, when the animal, healthy and well fed, is provoked, its blood is carried in greater abundance from the heart towards the extremities; and, swelling the vessels that are spread over the skin, its blue colour subsides the yellow of the vessels,

and produces a blue green that is seen through the epidermis. When, on the contrary, the animal is impoverished and deprived of free air, the exterior vessels being more empty, their colour prevails, and the animal becomes of a yellow-green till it recovers its liberty, is well nourished, and without pain, when it regains the colour; this being the consequence of an equilibrium in the liquids, and of a due proportion of them in the vessels.

Hasselquist says, that he never observed the Chameleon assume the colour of an external object presented to its view, although he made several experiments for the purpose. He says its natural colour is an iron gray, or black, mixed with a little gray. This it sometimes changes, and becomes entirely of a brimstone yellow, which, except the former, is the colour it most frequently assumes. It sometimes takes a darker or greenish yellow, and sometimes a lighter. He did not observe it assume any other colours; such as blue, red, purple, &c. When changing from black to yellow, the soles of its feet, its head, and the bag under its throat, were the first tinged; and then, by degrees, that colour spread over the rest of the body. He several times saw it marked with large spots of both colours all over its body, which gave it an elegant appearance. When it became of an iron gray, it dilated its skin, and became plump and handsome; but as soon as it turned yellow, it contracted itself, and appeared empty, lean, and ugly: and the nearer it approached in colour to white, the more empty and ugly it appeared; but its shape was always the most unpleasant when it was speckled.—Mr. Hasselquist kept a Chameleon for near a month; it was, during the whole time, very nimble and lively, climbing up and down its cage, fond of being near the light, and constantly rolling about its large eyes. It took no food during the whole of this time; so that, at last, it became lean, and evidently suffered from hunger. It could no longer hold

fast by the grating of the cage, but fell through weakness, when a turtle, that was in the same room, bit it and hastened its death. From this animal's being able to support long abstinence has arisen the vulgar notion of the Chameleon's living only on air.

When the Chameleon is removed from its place, Dr. Russel also informs us that it does not immediately change colour, nor does it constantly, in changing, assume that of the ground upon which it is laid. Thus, if put into a box lined with white, or with black, it will sometimes in the black become of a lighter colour than before, and *vice versa;* and sometimes will assume a brimstone colour. When the experiment was made upon a cloth of various colours, but where the animal had a larger field to move about upon, the event was the same.—It frequently goes through a succession of colours before taking that of the body nearest to it. When laid on the grass it will, perhaps, from a light earthy colour, first become darker, then black, yellow, again darkish, and, last of all, green. At other times it becomes green at once; and so of other colours when laid on other grounds: whence it has been hastily conjectured that the transition was always sudden. But, notwithstanding this irregularity in its change, especially when hurried or disturbed, its most permanent colour, in repose, was that of the ground on which it lay; provided the ground was not of one of the colours that it never does assume, of red or blue. Little material difference was observable, whether the experiments were made in the shade or in the sun; but the animal appears duller at some times than others, and captivity seems to abate its alacrity in changing.

Mr. Barrow says that "previously to the Chameleon's assuming a change of colour it makes a long inspiration, the body swelling out to twice its usual size: and, as this

inflation subsides, the change of colour gradually takes place. The only permanent marks are two small dark lines passing along the sides."

The Chameleon retires, in cold weather, into holes of rocks, and other retreats, where it is supposed to become torpid, till the return of the warmth restores the languid energy of its functions.—The female, not long afterwards, emerges from this confinement, and lays from nine to twelve eggs. These are oval, and seven or eight lines in their greater diameter. They are covered with a soft parchment-like membrane.

THE SALAMANDER *

No animal of the present tribe, except the crocodile, has excited so much notice as the Salamander. Whilst even the hardest bodies are unable to resist the action of fire, the generality of mankind have given full credit to the ridiculous stories that have for ages been circulated of this little Lizard, not only being able to withstand the effects of this powerful element, but even to extinguish it. So small an animal, possessing such very superior privileges, that furnished so many objects of comparison to poetry, so many beautiful emblems to love, and so many brilliant devices to valour, seems to have agreeably laid hold on the imaginations of men, in such a manner that they were

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* DESCRIPTION. The general length of the Salamander is seven or eight inches, though sometimes it becomes much larger. It is easily distinguished from all other Lizards by its short, cylindrical tail, and deep shining black colour, variegated with large oblong and somewhat irregular patches of bright orange-yellow.

It is found, in shady woods, in many parts of Germany, Italy, and France.

SYNONYMS. Lacerta salamandra. *Linn.*—La Salamandre terrestre. *La Cepede.*—*Shaw's Gen. Zool. vol.* iii. *tab.* 82.

unwilling to retract their belief, and therefore contented themselves with the traditions, without having their curiosity sufficiently roused to satisfy themselves by immediate experiment. The ancients, pretending that it owed its existence to the purest of elements, called it the Daughter of Fire, giving to it, at the same time, a body of ice. The moderns adopted the ridiculous tales of the ancients; and, as it is difficult to stop when once the bounds of probability have been passed, some writers have gone so far as to assert, that the most violent fire could be extinguished by the Salamander. In the most raging conflagration, it has been stated, if one of these small Lizards was but thrown into the flame, its progress would be immediately checked. It was not until after the light of science was diffused abroad, that the world began to discredit this wonderful property. Experiment then proved what reason alone might, long before, have demonstrated.

In addition to this, the Salamander was esteemed a poisonous reptile, and has been generally held in terror; but this opinion has been refuted by numerous experiments. M. de Maupertuis, who minutely studied the nature of this Lizard, in order to discover what might be its pretended poison, demonstrated also, experimentally, that fire acted upon it in the same manner as upon all other animals. He remarked that it was scarcely upon the fire, before it appeared to be covered with drops of a kind of milky fluid, which oozed through all the pores of the skin, and immediately became hard. It is needless to say that this fluid is not sufficiently abundant to extinguish even the smallest fire. It possesses some degree of acridity; for when put upon the end of the tongue, it causes an unpleasant burning sensation.

Shady woods, high mountains, or the banks of unfrequented rivulets, are the usual retreats of these animals; and they are not often seen except during wet weather. In

the winter, they lie concealed in hollows about the roots of old trees, in subterraneous recesses, or the cavities of old walls, where several of them have been sometimes discovered, collected, and twisted together. They are frequently to be seen in the water, where they are able to live as well as on land. Their principal food consists of insects, snails, and worms. Their pace is slow, and their manners sluggish.

When the Salamander is at rest, it very often rolls itself into a spiral form, like a serpent. Whenever it is handled, it covers itself suddenly over with its milky fluid; and when crushed, or even when squeezed, it emits a very peculiar and offensive odour. When struck, it erects its tail, and becomes, for some time, altogether motionless.

It is extremely tenacious of life, and is not to be killed by blows or wounds without much difficulty; but if wetted with vinegar, or sprinkled with powdered salt, it soon dies in convulsions. This is the case likewise with some other Lizards, and with most worms. It is able to continue under water for a considerable length of time. Some individuals have been kept in water for more than six months, without any other food than what they could collect from that element. The animals often raise their nostrils above the surface, for the purpose of breathing. Whilst kept in water, they occasionally throw off a thin skin, or pellicle, of a greenish ash colour.

The females are generally supposed to produce their young ones into the world alive, hatched from eggs within their own bodies, in the same manner as vipers. M. de Maupertuis, in one female that he opened, counted forty-two, and in another forty-four. When first hatched, they are nearly black, and almost without any yellow spots; they are deposited in the water, and furnished with a kind of fins on each side of the neck, which always drop off as soon as the animals become perfected.

THE WATER EFT, OR NEWT*.

To the Salamander has been attributed the fabulous property of being able to live in the midst of fire; whilst, on the contrary, the Eft has been discovered really to possess the opposite quality, of preserving its existence in the midst of ice. It is sometimes caught by the sudden formation of ice in the ditches or ponds that it inhabits; here it remains in a torpid state, till, on the return of spring, its prison becomes melted, when it recovers its liberty and its powers of motion. Sometimes, even in summer, Efts have been found enveloped in lumps of ice taken from ice-houses, in which they must have remained without either food or motion, from the commencement of the frost.

The inhabitants of Lapland, and several other countries of the north of Europe, have many fabulous notions respecting this animal. They say, for instance, that although it usually lives in the water, yet it often bounds up from the surface of the water, and alights on the branch of some adjacent tree, where it makes a noise resembling that of a man laughing.

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* Description. This Lizard, which is very common in stagnant and muddy waters in this country, is six or seven inches in length, and entirely covered, except on the belly, with small warts. The under parts are of a bright yellow colour, and the upper mostly black brown, spotted with black. It resides altogether either in the water, or in very damp places, and its tail, being flattened perpendicularly, serves it as a rudder in swimming. It is usually seen crawling along the bottom, but it now and then rises, with a wriggling motion, to the surface.

Synonyms. Lacerta palustris. *Linn.*—La Salamandre a queue plate. *La Cepede.*—Ask, in Scotland.—Warty Lizard. *Penn.*—Water Eft or Newt, in various parts of England.

The female deposits her eggs towards the end of May, or the beginning of June. These are very numerous, and are connected together in two strings, by a viscid substance, which likewise surrounds each single egg. They are deposited at the bottom of the water, but they sometimes rise for a little while to the surface, in consequence of some globules of air which form in the glairy matter that surrounds them: that air, however, soon escapes, and they again sink. The young Efts may be distinctly perceived through this glairy matter, coiled up within a transparent membrane, which serves the place of the shell in the eggs of birds. These gradually increase in size, and soon begin to move, at first slowly, but afterwards with greater agility. After eight or ten days, according to the climate or season, they tear themselves a passage through the membrane. When the young ones first come into the world, they have somewhat the structure of fishes: the feet are short, and the shoulders are furnished with a kind of small fringed fins. These appear not much unlike feathers, and are attached to a kind of notched cartilaginous half rings, usually about four on each side. As the animals become larger, these processes diminish in size, and at last disappear.

Almost all the animals of the lizard tribe, change their skins once or twice a year, but the Efts do this much more frequently. From seven individuals that Mr. Baker kept in a large jar of water for many months, it appears, that they generally perform this operation at the end of every fortnight or three weeks. He informs us, that for a day or two before the change, the animal always appeared more inactive than usual, taking no notice of the worms that were given to it, which at other times it greedily devoured. The skin in some parts of the body appeared loose, and its colour not so lively as before. It began the operation of casting the skin, by loosening that part about

the jaws. It then pushed it backward gently and gradually, both above and below the head, till it was able to slip out first one leg and then the other. With these legs it proceeded to thrust the skin as far backward as they could reach. This done, it was under the necessity of rubbing its body against the gravel at the bottom of the water, till it was more than half freed from the skin, which appeared doubled back, covering the hinder part of the body and the tail. The animal now bent back its head, taking the skin in its mouth, and setting its feet upon it, for firmer hold, by degrees drew it entirely off, the hind-legs being dragged out in the same manner that the fore ones were before.—On examining the skin, it was, in every instance, found to be turned inside out, but without any breach except at the jaws. These creatures do not, however, like some of the snakes, put off the coverings of the eyes along with the skin; for two round holes always appear where the eyes have been.—This operation sometimes occupies nearly half an hour; and, after it is finished, the lizard appears full of life and vigour. If the skin is not taken away very shortly after it is cast, the animal usually swallows it. Sometimes it begins with the head part first; and the tail, being filled with air and water, becomes like a blown bladder, and proves so unmanageable, that it is very diverting to see the pains it costs to discharge these, and to reduce it to a condition to pass down the throat.

M. Dufay informs us, that it frequently happens to an Eft, not to be able to get the old skin entirely removed from one of the feet; and that the portion of the skin which remains, becoming corrupted, often occasions a species of gangrene in the foot. This foot soon afterwards falls off, and, instead of killing the animal, is in a little while replaced by another. Efts are still more liable to lose their toes in this manner. The cast skins of the

Eft are frequently to be seen floating on the surface of stagnant waters.

The teeth of these animals are so small, as scarcely to be perceptible. They feed on flies and various other insects, on the spawn of frogs, and on the vegetables of marshes, ponds, and ditches. They will frequently snap at the angler's bait, and are thus often caught by his hook.—Dr. Townson, who had several of these Lizards in a jar, for the purpose of trying experiments on their respiration, says, that he fed them with worms. If they were in the greatest stillness, and a worm was dropped ever so gently among them, they all immediately began to fight, each attacking his neighbour, and seizing it by the head, foot, or tail. This he remarked to be not a contention immediately for the worm, for that oftentimes lay for a short time unnoticed, but it seemed to originate in a great acuteness of smell, (which in a moment informed them of the presence of their food,) and in a singular dullness of their discriminating powers, which did not enable them to observe exactly where it was deposited.

From the circumstance of this species of Lizards having never been seen in the winter, it is supposed that they retire into holes or mud, in their native ponds or marshes, and there become torpid.

The Eft, as well as the salamander, is soon killed by being sprinkled with salt. At first it exudes a milky fluid from every part of its body: it then falls into convulsions, and expires in the course of a few minutes.

It has been satisfactorily proved, from various experiments, that the Eft has no venomous qualities whatever.

Serpents*

MAHARAJA SERFOGI'S SA... THE TANJORE ... MAHAL ...

OF THE RATTLE-SNAKE TRIBE†.

THE animals of this tribe, which are few in number, are all furnished with poisonous fangs, but their bite is not fatal, unless they happen to be much irritated.—They are confined to the warmer parts of America, where they prey on the smaller species of birds, lizards, and insects. They give notice of their approach by the rattle at the end of their tail, which is composed of hollow, membranaceous articulations, that annually increase in number till they amount to about forty. The head is broad, and covered with large carinated scales, or such as have a prominent middle line: the snout is rounded and obtuse.

THE BANDED RATTLE-SNAKE‡.

This, the most dreaded of all serpents, is found both in North and South America. Providence has given to

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* *Serpents* are destitute of feet. Their jaws are dilatable, and not articulated: they have neither fins nor ears.

† The Linnean generic character of the Rattle-snake is, that they have scuta on the abdomen; scuta and squamæ beneath the tail, and the tail terminated with a rattle.

‡ Description. The Banded Rattle-snake grows to the length of five or six feet. Its colour is yellowish-brown above, marked with broad transverse bars of black. Both the jaws are furnished with small, sharp teeth, and the upper one has four large incurvated and pointed fangs. At the base of each there is a round orifice, opening

mankind a security against its bite; for it generally warns the passenger of its vicinity by the rattling of its tail. In fine weather the notice is always given, but not always in rainy weather: this inspires the Indians with a dread of travelling among the woods in wet seasons. In addition to this circumstance, the odour of the Rattle-snake is so extremely fetid, that when it basks in the sun, or is irritated, it is often discovered by the scent, before it is either seen or heard. Horses and cattle frequently discover it by the scent, and escape at a distance; but when the serpent happens to be to leeward of their course, they sometimes run into great danger.

The Rattle-snake usually moves with its head on the ground; but, if alarmed, throws its body into a circle, coiling itself with its head in the centre erect, and with its eyes flaming in a most terrific manner. Happily, it may be easily avoided; it is slow in pursuit, and has not the power of springing at its assailants.

Its tongue is frequently darted out and retracted with great agility. Besides the fangs with which the Rattle-snakes kill their prey, there is another kind of teeth much smaller, and situated in both jaws, which serve for catching and retaining it. There are no grinders: for they do not chew their food, but always swallow it whole.

It is not very uncommon for this creature to come into

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into a hollow, that appears again near the end of the tooth, in the form of a small channel: these teeth may be raised or compressed. When the animals are in the act of biting, they force out of a gland, near the roots of the teeth, the fatal juice: this is received into the round orifice of the teeth, conveyed through the tube into the channel. Their tail is composed of hollow, membranaceous articulations, that annually increase in number, till they amount to about forty.

SYNONYMS. Crotalus horridus. *Linn.*—Boiquira. *La Cepede.*—Rattle-snake. *Var.*

houses; but the moment any of the domestic animals see or hear it, they take alarm, and unite in giving notice of its presence. Hogs, dogs, and poultry, all exhibit the utmost consternation and terror, erecting their bristles and feathers, and expressing by their different notes of alarm, that a dangerous enemy is near. Mr. Catesby says, that in a gentleman's house in Carolina, as the servant was making the bed, on the ground floor, that he had himself left but a few minutes before, he discovered a Rattle-snake lying coiled between the sheets in the middle of the bed.

When the Rattle-snake has been irritated, or the weather is exceedingly hot, its poison, on being inserted into a wound, often proves fatal in a very short time.

We are told, by an intelligent American writer, that a farmer was one day mowing with his negroes, when he by chance trod on a Rattle-snake, that immediately turned upon him, and bit his boot. At night, when he went to bed, he was attacked with sickness: he swelled, and before a physician could be called in, he died. All his neighbours were surprised at this sudden death, but the body was interred without examination. A few days afterwards, one of the sons put on his father's boots, and at night when he pulled them off, he was seized with the same symptoms, and died on the following morning. The medical man arrived, but, unable to divine the cause of so singular a disorder, seriously pronounced both the father and the son to have been bewitched. At the sale of the effects, a neighbour purchased the boots, and on putting them on, experienced the like dreadful symptoms with the father and son. A skilful physician, however, being sent for, who had heard of the preceding affair, suspected the cause, and, by applying proper remedies, recovered his patient. The fatal boots were now carefully examined, and the two fangs of the Snake were discovered to have been left in the leather, with the poison-bladders adhering

to them.—They had penetrated entirely through, and both the father and son had imperceptibly scratched themselves with their points in pulling off the boots.

Dr. Brickell says, he was witness to an encounter between a dog, and a Rattle-snake which was fastened to the ground by a tolerably long string. The Snake coiled up, and rattled its tail; and the dog being let loose, seized, and attempted to shake it out at full length, but from the weight was prevented from doing this, and in consequence it bit him in the ear. He seemed somewhat stunned, and left the place; but returned on being encouraged by the company. In the second encounter he received a bite in his lip, after which the Snake bit himself. The dog from that moment appeared senseless of every thing around him; even the caresses of his brutal master had now no effect, and in less than half an hour both the animals were found dead.

A Rattle-snake which had been highly irritated by an Indian dog, that had both cunning and agility enough always to keep out of his reach, was observed at the time to contract the muscles that moved his scales, in such a manner, as to make his body appear extremely bright: but immediately after he had bitten himself, all his splendour was gone.

If they are not provoked, these animals are perfectly inoffensive to mankind, being so much alarmed at the sight of men, as always, if possible, to avoid them, and never themselves commencing an attack.

Mr. St. John once saw a tamed Rattle-snake, as gentle as it is possible to conceive a reptile to be. It went to the water and swam whenever it pleased; and when the boys, to whom it belonged, called it back, their summons was readily obeyed. It had been deprived of its fangs. They often stroked it with a soft brush; and this friction seemed

to cause the most pleasing sensations, for it would turn on its back to enjoy it, as a cat does before the fire.

Rattle-snakes are viviparous, producing their offspring, generally about twelve in number, in the month of June; and by September these acquire the length of twelve inches. It has been well attested that they adopt the same mode of preserving their young ones from danger as that attributed to the European viper, receiving them into their mouth and swallowing them.—M. de Beauvois declares that he was an eye-witness to the process. He saw a large Rattle-snake, which he had disturbed in his walks: it immediately coiled itself up, opened its jaws, and in an instant five small ones that were lying by it rushed into its mouth. He retired in order to watch the snake, and in a quarter of an hour saw her again discharge them. He then approached a second time, when the young ones rushed into its mouth more quickly than before, and the animal immediately moved off and escaped.

The Rattle-snake is known to devour several of the smaller species of animals, and by many persons is considered to be endowed with the power of fascinating its prey, until they even run into its jaws. Mr. Pennant, from Kalm, says that this snake will frequently lie at the bottom of a tree on which a squirrel is seated. He fixes his eyes upon the little animal, and from that moment it cannot escape: it begins a doleful outcry, which is so well known that a person passing by, on hearing it, immediately knows that a snake is present. The squirrel runs up the tree a little way, comes down again, then goes up, and afterwards comes still lower. The snake continues at the bottom of the tree, with its eyes fixed on the squirrel; and his attention is so entirely taken up, that a person accidentally approaching may make a considerable noise, without so much as the snake's turning about. The squirrel comes

lower, and at last leaps down to the snake, whose mouth is already wide open for its reception. The poor little animal then, with a piteous cry, runs into his jaws, and is swallowed.

Some colour is given to this account by M. Le Vaillant, who says that he saw, on the branch of a tree, a species of shrike, trembling as if in convulsions, and at the distance of nearly four feet, on another branch, a large species of snake, that was lying with out-stretched neck, and fiery eyes, gazing steadily at the poor animal. The agony of the bird was so great, that it was deprived of the power of moving away; and when one of the party killed the snake, it was found dead upon the spot—and that entirely from fear—for on examination it appeared not to have received the slightest wound.

The same gentleman informs us, that a short time afterwards he observed a small mouse, in similar agonizing convulsions, about two yards distant from a snake, whose eyes were intently fixed upon it; and on frightening away the reptile, and taking up the mouse, it expired in his hand.

Dr. Barton of Philadelphia, however, after having examined, with some care, into the subject, is of opinion that the report of this fascinating property has had its rise in nothing more than the fears and cries of birds, and other animals, in the protection of their nests and young. He says that "the result of not a little attention has taught him, that there is but one wonder in the business;—the wonder that the story should ever have been believed by any man of understanding and observation." But the above facts, if they are such, and, till they are proved otherwise, we must esteem them such, apply so ill to Dr. Barton's conclusion, as to induce a supposition that his opinion is not so well founded as it might appear to be

from the perusal of his paper only, and without comparing it with other accounts.

In summer the Rattle-snakes are generally found in pairs: in winter they collect in multitudes, and retire into the ground, beyond the reach of the frost. Tempted by the warmth of a spring day, they are often observed to creep out in a weak and languid state. Mr. Pennant mentions, that a person has seen a piece of ground covered with them, and that he killed, with a rod, between sixty and seventy; till, overpowered with the stench, he was compelled to retire.

The American Indians often regale on the Rattle-snake. —When they find these animals asleep, they put a small forked stick over their necks, which they keep immoveably fixed to the ground, giving the snake a piece of leather to bite; and this they pull back several times with great force, until they observe that the poisonous fangs are torn out. They then cut off the head, skin the body, and cook it as we do eels; and the flesh is said to be extremely white and good.

*OF THE BOA TRIBE IN GENERAL**.

This is a noble tribe of animals, the largest and strongest of the serpent race. They are altogether destitute of venom, never attack but from necessity, always engage with open courage, and conquer only by superior strength.

Three of the species are found in Asia; the rest are confined to the warmer parts of the New Continent.

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* The Boas are readily distinguished from other serpents, in the under surface of the tail being covered with scuta or undivided plates, like those on the belly, and in their body not being terminated by a rattle.

THE GREAT BOA *.

This immense animal, the largest of all the serpent tribe, is frequently from thirty to forty feet in length, and of a proportionate thickness. A gentleman, who had some large concerns in America, informs us, that he one day sent out a soldier, with an Indian, to kill some wild-fowl; and in pursuing their game, the Indian, who generally went before, sat down upon what he supposed to be the fallen trunk of a treee. But the monster beginning to move, the poor fellow perceived what it was that he had thus approached, and dropped down in an agony. The soldier, who at some distance saw what had happened, levelled his piece at the serpent's head, and, by a lucky aim, shot it dead; and, going up to the relief of his companion, found that he was also dead from his fright. On his return, he related what had happened; the animal was ordered to be brought, and it was found to be thirty-six feet long. The skin was stuffed, and sent to the cabinet of the Prince of Orange.

In the island of Java, we are assured that one of these monsters has been known to kill and devour a buffalo. In a letter, printed in the German Ephemerides, we have an account, by a person who assures us that he was himself

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* Description. The ground colour of the Great Boa is yellowish-gray, on which is distributed along the back, a series of large chain-like, reddish-brown, and sometimes perfectly red variegations, with other smaller and more irregular marks and spots.

It is a native of Africa, India, the larger Indian islands, and South America, where it chiefly resides in the most retired situations in woods and marshy retreats.

Synonyms. Boa Constrictor. *Linn.*—Le Devin. *La Cepede.*—Constrictor Boa. *Shaw.*—*Shaw's Gen. Zool. vol.* iii. *tab.* 92, 93.

a spectator, of a combat between an enormous serpent and a buffalo. The serpent had, for some time, been waiting near the brink of a pool, in expectation of its prey; when a buffalo was the first animal that appeared. Having darted upon the affrighted beast, it instantly began to wrap him round with its voluminous twistings; and at every twist, the bones of the buffalo were heard to crack almost as loud as the report of a gun. It was in vain that the animal struggled and bellowed; its enormous enemy entwined it so closely, that at length all its bones were crushed to pieces, like those of a malefactor on the wheel, and the whole body was reduced to one uniform mass: the serpent then untwined its folds, in order to swallow its prey at leisure. To prepare for this, and also to make it slip down the throat the more smoothly, it was seen to lick the whole body over, and thus cover it with a mucilaginous substance. It then began to swallow it at the end that afforded the least resistance; and in the act the throat suffered so great a dilatation, that it took in at once substance that was thrice its own thickness.

According to the Bombay Courier of August 31, 1799, a Malay prow was making for the port of Amboyna; but the pilot, finding she could not enter it before dark, brought her to anchor for the night close under the island of Celebes. One of the crew went on shore in quest of betel nut in the woods, and on his return, lay down, as it is supposed, to sleep on the beach. In the course of the night he was heard, by his comrades, to scream out for assistance. They immediately went on shore, but it was too late; for an immense snake of this species, had crushed him to death. The attention of the monster being entirely occupied by his prey, the people went boldly up to it, cut off its head, and took both it and the body of the man on board their boat. The snake had seized the poor

fellow by the right wrist, where the marks of the fangs were very distinct; and the mangled corpse bore evident signs of having been crushed by the monster's twisting itself round the head, neck, breast, and thigh. The length of the snake was about thirty feet, and its thickness equal to that of a moderate-sized man.

We have been assured by travellers, that these animals are sometimes found with the body of a stag in their gullet; while the horns, which they are unable to swallow, are seen sticking out at their mouths.

It is happy for mankind that their rapacity is often their own punishment; for, whenever they have gorged themselves in this manner, they become torpid, and may be approached and destroyed with safety. Patient of hunger to a surprising degree, whenever they seize and swallow their prey, they seem, like surfeited gluttons, unwieldy, stupid, helpless, and sleepy. They at that time seek for some retreat, where they may lurk for several days together, and digest their meal in safety. The smallest effort then will destroy them; they scarcely can make any resistance; and equally unqualified for flight or opposition, even the naked Indians do not fear to assail them. But it is otherwise when this sleeping interval of digestion is over; they then issue, with famished appetites, from their retreats, while every animal of the forest flies from their presence.

When Captain Stedman was on board one of his boats on the river Cottica in Surinam, he was informed, by one of his slaves, that a large snake was lying among the brush-wood on the beach, not far distant; and, after some persuasion, he was induced to land, in order to shoot it. At the first shot, the ball missing the head, went through the body: when the animal struck round, and with such astonishing force, as to cut away all the underwood around him, with the facility of a scythe mowing grass; and, by

flouncing his tail, caused the mud and dirt in which he lay, to fly over the men's heads that were with him, to a considerable distance. They started back some way, but the snake was quiet again in a few minutes. Captain Stedman again fired, but with no better success than before; and the animal sent up such a cloud of dust and dirt, as he had never seen but in a whirlwind; which caused them once more suddenly to retreat. After some persuasions, he was induced, though much against his inclination, being exceedingly weak from illness, to make a third attempt. Having, therefore, once more discovered the snake, they discharged their pieces at once, and shot him through the head. The negro brought a boat-rope to drag him to the canoe, which was lying on the bank of the river. This proved no easy undertaking, since the huge creature, notwithstanding his being mortally wounded, still continued to writhe about in such a manner as to render it dangerous for any person to approach him. The negro made a running noose on the rope, and, after some fruitless attempts, threw it over his head with much dexterity; and now, all taking hold of the rope, they dragged him to the beach, and tied him to the stern of the canoe to take him in tow. Being, however, still alive, he there kept swimming like an eel. His length was more than twenty-two feet.

When they came to one of their stations, they hauled him on shore, in order to skin him and take out the oil. To effect this purpose, one of the negroes, having climbed up a tree with the end of a rope, let it down over a strong forked branch, and the others hoisted up the snake, and suspended him from the tree. This done, the former negro, with a sharp knife between his teeth, left the branch, and clung fast upon the monster, which was still writhing, and began his operations by ripping it up, and stripping down the skin as he descended. "Though I per-

ceived (says the captain) that the animal was no longer able to do him any injury, I confess I could not, without emotion, see a man stark naked, black and bloody, clinging with his arms and legs round the slimy and yet living monster." The negroes cut the animal in pieces, and would have eaten it, had they not been refused the use of the kettle to boil it in.—The bite of this snake is not venomous; nor is it believed to bite at all from any other impulse than that of hunger.

*OF THE SNAKES IN GENERAL**.

This tribe comprises a great number of species, (*nearly two hundred,*) which differ from each other very greatly, both in size and habit. About one-fifth of the whole have been discovered to be poisonous: these are, in general, to be distinguished from the rest by their large, flattish, and somewhat heart-shaped heads, and rather short than long bodies and tails. The harmless species have, for the most part, small heads, with more extended bodies.

THE COMMON VIPER, OR ADDER †.

The apparatus of poison in the Viper, is very similar to that of the rattle-snake, and all the other poisonous ser-

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* All the species have scuta, or undivided plates, under the abdomen; and broad alternate squamæ, or scales, beneath the tail.

In the investigation of this tribe, it is to be remarked, that the subcaudal scales, although alternate, are reckoned by pairs; so that the number marked by Linnæus for the respective species, always means the number of pairs.

† Description. They do not often exceed the length of two feet, though they are sometimes found above three. The ground colour of their bodies is a dirty yellow, deeper in the female than in

serpents. The symptoms that follow the bite, are an acute pain in the wounded part, with a swelling, at first red, but afterwards livid, which, by degrees, spreads to the adjoining parts; with great faintness, and a quick, though low, and sometimes interrupted pulse; sickness at the stomach, with bilious, convulsive vomitings, cold sweats, and sometimes pain about the navel. The most esteemed remedy is common salad-oil, thoroughly rubbed on the wounded part. This is always used by the viper-catchers, and seems far more efficacious than any volatile alkali, as formerly recommended. The bite of the viper in this country, although it produces a painful and troublesome swelling, is rarely attended with any other bad consequence.

The poison, according to Dr. Mead, when diluted with a little warm water, and applied to the tip of the tongue, is sharp and fiery, a sensation taking place, as though the tongue was struck through with something scalding or burning. This, he says, goes off in two or three hours. One person, mentioned by Dr. Mead, tried a large drop of it undiluted; in consequence of which his tongue swelled with a little inflammation; and the soreness lasted two days. Other persons, on the contrary, assert it to have no particular acrimony of taste, but that, in this respect, it rather resembles oil or gum. Contradictions

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the male. The back is marked throughout with a series of rhomboidal black spots, joined to each other at the points; and the sides have triangular ones. The belly is entirely black.—They are chiefly distinguished from the common snake by their darker belly; their head being much thicker than the body; and in particular by the tail, which, though it ends in a point, does not taper to so great a length as in the snake. When, therefore, other distinctions fail, the difference of the tail may be distinguished at a single glance.

SYNONYMS. Coluber berus. *Linn.*—Vipère. *La Cepede.*—Viper. *Penn.*—English Viper, Adder. *Ray.*—*Shaw's Gen. Zool. vol.* iii. *tab.* 101.—*Penn. Brit. Zool. vol.* iii. *tab.* 4.

nearly equal have taken place relative to the effect of viperine poison taken into the stomach. Boerhaave affirms it to produce no ill effect whatever; and the Abbé Fontana, that it is not to be swallowed with impunity—although he is one of those who assert its being devoid of any thing unpleasant to the taste. We are told, however, that in the presence of the Grand Duke of Tuscany, while the philosophers were making elaborate dissertations on the danger of the poison taken inwardly, a viper-catcher, who happened to be present, requested that a quantity of it might be put into a vessel, and then, with the utmost confidence, and to the astonishment of the whole company, drank it off in their presence. Every one expected the man instantly to drop down dead; but they soon perceived their mistake, says the relater of the story, and found that, taken inwardly, the poison was as harmless as water.

The Viper is the only one, either of the Reptile or Serpent tribes, in Great Britain, from whose bite we have any thing to fear. All the others are either entirely destitute of poison, or, if they possess any, it is not injurious to man.

These animals are viviparous, and produce their offspring towards the close of summer. The eggs, which are hatched in the womb, are usually ten or twelve only in number, and chained together somewhat like a string of beads. When the young ones have burst the shell, they creep from their confinement into the open air, where they continue for several days without taking any food. The Rev. Mr. White, of Selborne, in company with a friend, surprised a large female Viper, which seemed very heavy and bloated, as she lay on the grass, basking in the sun. They killed and cut her up, and found in the abdomen fifteen young ones, about the size of full-grown earthworms. This little fry issued into the world with the true Viper spirit about them, showing great alertness as soon as

disengaged from the belly of the dam. They twisted and wriggled about, set themselves up, and gaped very wide when touched with a stick; exhibiting manifest tokens of menace and defiance, though as yet no fangs were to be discovered, even with the help of glasses.

That the young ones, for some time after their birth, retreat, when suddenly alarmed, into the mouth of the female, in the same manner as the young of the opossum do into the abdominal pouch of their parent, seems a fact satisfactorily ascertained.—Vipers arrive at their full growth in about seven years, and produce at the end of their second or third.—Their food consists of reptiles, worms, or young birds, which they swallow whole, though it sometimes happens that the morsel is thrice the thickness of their own body.

They are capable of supporting long abstinence, one of them having been kept above six months in a box without food; during which time its vivacity was not lessened.—When at liberty they remain torpid throughout the winter; yet, when confined, they have never been observed to take their annual repose.

Vipers are very generally dispersed over the old Continent, and are by no means uncommon in our own island, particularly in the dry, stony, and chalky counties.

They are usually caught with wooden tongs by the end of the tail. This is done without danger; for while they are held in that position, they cannot wind themselves up to injure their enemy.

Their flesh was formerly in high esteem as a remedy for various diseases, but particularly as a restorative. It has, however, of late years, lost much of its antient credit, and is very rarely prescribed by modern practitioners.

THE COMMON OR RINGED SNAKE*.

The Common or Ringed Snakes are well-known inhabitants of moist and warm woods in this country, on the dry banks of which they are often seen during the summer, either sleeping or basking themselves. They are harmless and inoffensive animals, being totally destitute of every means of injuring mankind.

The female deposits her eggs in holes fronting the south, near stagnant waters; but more frequently in dunghills, in the form of a chain of ova, connected by bunches of a gluey matter, to the number of from twelve to twenty. These are about the size of the eggs of the blackbird, of a whitish colour, and covered with a parchment-like membrane. The young ones are rolled up spirally within the middle of the fluid, which greatly resembles the white of a fowl's egg. They are not hatched until the spring following the time when they are laid.

In winter these snakes conceal themselves, and become nearly torpid; re-appearing in spring, when they uniformly cast their skins. This is a process which they also seem to undergo in the autumn. Mr. White says, "About the middle of this month, (September) we found in a field, near a hedge, the slough of a large snake, which seemed to have been newly cast. From circumstances, it appeared as if turned wrong side outward, and as if it had been drawn off backward, like a stocking or woman's glove. Not only the whole skin, but the scales from the very eyes were peeled off, and appeared in the head of the slough like a pair of spectacles. The reptile, at the time of changing his coat, had entangled himself intricately in the grass and weeds;

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* SYNONYMS. Coluber natrix. *Linn.*—Ringed Snake. *Penn.*—*Penn. Brit. Zool. vol.* iii. *tab.* 4.

in order that the friction of the stalks and blades might promote this curious shifting of the exuviæ.

It would be a most entertaining sight, could a person be an eye-witness to such a feat, and see the snake in the act of changing its garment. As the convexity of the eyes in the slough is not inward, that circumstance alone is a proof that the skin has been turned; not to mention that now the inside is much darker than the outer. If you look through the scales of the snake's eyes from the concave side, viz. as the reptile used them, they lessen objects much.—Thus it appears, from what has been said, that snakes crawl out of the mouth of their own sloughs, and quit the tail part last, just as eels are skinned by a cook-maid.—While the scales of the eyes are becoming loose, and a new skin is forming, the creature, in appearance, must be blind, and feel itself in a very awkward and uneasy situation.

The earliest time of the snakes making their appearance is in the month of March, from which period, until the middle of May, they are found in vast numbers on warm banks, in moist and shady places, among thickets and brushwood. From this time, probably on account of the great heat of summer, they are not so often seen.

Several instances have occurred of the Common Snake being in some degree domesticated. Mr. White says that he knew a gentleman who had one in his house quite tame. Though this was usually as sweet in its person as any other animal, yet, whenever a stranger, or a dog or cat entered, it would begin to hiss, and soon filled the room with an effluvia so nauseous as to render it almost insupportable.

An intimate friend of mine* had a Common Snake in his rooms at Cambridge nearly three months. He kept it in a box of bran; and, during all that time, he never could

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* The Rev. Revett Sheppard, F.L.S.

discover that it ate any thing, although he frequently put both eggs and frogs, the favourite food of this species, into the box. Whenever he was in the room he used to let the animal out of its prison: it would first crawl several times round the floor, apparently with a desire to escape; and, when it found its attempts fruitless, would climb up the tables and chairs, and not unfrequently even up the chair of its owner, as he sat at table. At length it became so familiar as to lie in a serpentine form on the upper bar of his chair: it would crawl through his fingers, if held at a little distance before its head, or lie at full length upon his table, while he was writing or reading, for an hour or more at a time. When first brought into the room, it used to hiss and dart out its forked tongue; but in no instance emitted any unpleasant vapour. In all its actions it was remarkably cleanly. Sometimes it was indulged with a run upon the grass, in the court of the college; and sometimes with a swim in a large bason of water, which it seemed to enjoy very much. When this gentleman left the University, he gave his bedmaker orders to turn it out into the fields; which, he believes, was done.

These animals prey on frogs, insects, worms, and mice; for the former of which they often go into the water, where they swim with great elegance. After a snake has devoured a tolerably large frog, or a small bird, its prey will be seen to form a knot in its body; and it then becomes so stupid and inactive as easily to be caught.—The gentleman who favoured me with the preceding account of a tame snake, was witness to one of these animals seizing a frog. It laid hold of it by one of the legs, and immediately began to swallow it. He watched them for nearly a quarter of an hour; when the poor frog cried out so piteously that he determined to release it; but in the struggle the leg and thigh had been torn off and devoured.—The Common Snakes are said to be particularly fond of milk, so much so,

that they will occasionally creep into dairies to drink the milk from the vessels. It is even said that they will twine themselves round the legs of cows, in order to reach their udders, and that they will sometimes suck them till the blood follows!

THE HOODED OR SPECTACLE SNAKE*.

When it is irritated or preparing to bite, this animal erects its body, bends down its head, and seems, as it were, hooded by the expanded skin of the neck: hence its name of *Cobra di Capello*, or Hooded Serpent. It opens its mouth, exhibiting its sharp poisonous fangs; and then springs on its enemy with great agility.

From its frequently moving along with great part of its body erect, and with its head in continual action, as if looking around with great circumspection, this species is in India esteemed the emblem of prudence. It is also an object of superstitious veneration among the Gentoo Indians, founded on some traits of legendary mythology: they seldom name it without adding some epithet, such as the royal, the good, the holy. Some of them are happy when

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* Description. This dreadful Serpent is very common in many parts of India. Its general length is three or four feet, and thickness somewhat more than an inch. The head is rather small; and a little beyond it there is a lateral dilatation of the skin, which is continued to the length of about four inches downward, when it gradually sinks into the cylindrical form of the rest of the body. This part is capable of being extended by the animal at pleasure. It is usually marked on the top by a very large and conspicuous patch resembling a pair of spectacles. The usual colour of the Hooded Snake is a pale rusty brown above, and beneath a bluish white, tinged with yellow. The tail tapers to a slender and sharply-pointed extremity.

Synonyms. Coluber Naja. *Linn.*—Cobra di Capello. *Var.*—Spectacle Snake. *Shaw.*—*Shaw's Gen. Zool. vol.* iii. *tab.* 107.

MAHARAJA SERFOGI'S SAR

they see it running about their houses; from whence many have received irreparable injuries; for it is very possible to hurt it unintentionally, either without seeing it, or during sleep, and it immediately revenges itself with fury. Its bite is sometimes mortal in two or three hours, especially if the poison has penetrated the larger vessels or muscles.—A dog bitten by one of them died in twenty-seven minutes; and another, larger, survived fifty-six minutes. A chicken died in less than half a minute, though others survived a couple of hours, depending, probably, on the heat of the weather, and the condition of the serpent at the time.

In India the Hooded Snake is carried about in a basket, to be publicly exhibited as a show, being first deprived of its fangs, in order to secure the men from the danger of its bite. At the sound of a flageolet it is taught to assume a kind of dancing attitude and motions, which it continues as long as its master continues his music.

THE BLACK SNAKE*.

The activity of these animals is astonishing, since, in speed, they will sometimes equal a horse. Their different motions are very diverting: they will at times climb the trees in quest of the tree-frogs; or, for other prey, glide at full length along the ground. On some occasions they present themselves half erect, and in this posture their eyes and their heads appear to great advantage. The former display a fiery brightness, by means of which we are told they are able to fascinate birds, and the smaller quadru-

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* Description. The Black Snake is a North American Serpent that grows to a great length It is very smooth and slender, black on the upper parts, and of a pale blue beneath, except the throat, which is white.

Synonyms. Coluber Constrictor. *Linn.*—Knot. *Kerr's La Cepede.*—Le Lien. *La Cepede.*—Black Snake, in America.

peds, in a manner similar to the rattle-snake. Their body is said to be so brittle, that if, when pursued, they get their head into a hole, and a person seizes hold of the tail, this will often twist itself to pieces.

The Black Snake is sometimes bold enough to attack a man, but may be driven off by a smart stroke from a stick, or whatever other weapon he may chance to have in his hand. When it overtakes a person who has endeavoured to escape (not having had courage enough to oppose it,) it is said to wind itself round his legs in such a manner as to throw him down, and then to bite him several times in the leg, or wherever it can lay hold of, and run off again.

During Professor Kalm's residence at New York, Doctor Colden told him that, in the spring of 1748, he had several workmen at his country-seat, and among them one just arrived from Europe, who, of course, knew but little of the qualities of the Black Snake. The other workmen, who observed a male and female lying together, engaged their new companion to kill one of them. He accordingly approached them with a stick in his hand: this the male observed, and made towards him. The man little expected to find such courage in the reptile, and flinging away his stick, ran off as fast as he was able. The Snake pursued, overtook him, and twisting several times round his legs, threw him down, and almost frightened the poor fellow out of his senses. He could not rid himself of the animal, without cutting it through in two or three places with a knife. The other workmen laughed heartily at the incident, without once offering to help their companion, considering the whole affair only as a scene of the highest amusement.

This Snake, which is altogether innoxious, is very greedy of milk, and it is difficult to keep it out when once it is accustomed to get into a cellar where milk is

kept. It has been seen eating milk out of the same dish with children, without biting them, though they often gave it blows with their spoons upon the head, when it was too greedy.

It is said to be found extremely useful in America, in clearing houses of rats, which it pursues with wonderful agility, even to the very roofs of barns and out-houses; for which good services it is cherished by the generality of the Americans, who are at great pains to preserve and multiply the breed. It is also said to destroy the rattle-snakes by twisting round their bodies, and suffocating them by the violence of its contractile force. It is so swift that there is no escaping its pursuit, but its bite has no more effect than a scratch with a pin. All the mischief this species does is to the farmers' wives, in skimming the milk-pans of the cream, and robbing the hen-roosts of their eggs. It is not uncommon to find it coiled up in a nest under a sitting hen.

The following description of a contest between the Black Snake, and another species, is extracted from the Letters of an American Farmer: "One of my constant walks when I am at leisure (says this gentleman) is in my lowlands, where I have the pleasure of seeing my cattle, horses, and colts. Exuberant grass replenishes all my fields, the best representative of our wealth. In the middle of that tract, I have cut a ditch, eight feet wide. On each side of this I carefully sow every year some grains of hemp, the plants from which rise to the height of fifteen feet, so strong and full of limbs as to resemble young trees. These produce natural arbours, rendered often still more compact by the assistance of an annual creeping plant, which we call a vine, that never fails to entwine itself among the branches, and always produces a very desirable shade. As I was one day sitting, solitary and pensive, in this primitive arbour, my attention was engaged by a

strange sort of rustling noise, at some paces' distance. I looked all around without distinguishing any thing, until I climbed up one of my great hemp-stalks; when, to my astonishment, I beheld two snakes of considerable length, the one pursuing the other with great celerity through a hemp stubble field. The aggressor was of the black kind, six feet long; the fugitive was a Water Snake, nearly of equal dimensions. They soon met, and, in the fury of their first encounter, appeared in an instant firmly twisted together; and, whilst their united tails beat the ground, they mutually tried with open jaws to lacerate each other. What a fell aspect did they present! Their heads were compressed to a very small size; their eyes flashed fire; and after this conflict had lasted about five minutes, the second found means to disengage itself from the first, and hurried towards the ditch. Its antagonist instantly assumed a new posture, and half creeping, half erect, with a majestic mien, overtook and attacked the other again, which placed itself in a similar attitude, and prepared to resist. The scene was uncommon and beautiful, for thus opposed, they fought with their jaws, biting each other with the utmost rage; but, notwithstanding this appearance of mutual courage and fury, the water-snake still seemed desirous of retreating towards the ditch, its natural element. This was no sooner perceived by the keen-eyed black one, than, twisting its tail twice round a stalk of hemp, and seizing its adversary by the throat, not by means of its jaws, but by twisting its own neck twice round that of the water snake, he pulled it back from the ditch. To prevent a defeat, the latter took hold likewise of a stalk on the bank, and, by the acquisition of that point of resistance, became a match for his fierce antagonist. Strange was this to behold: two great snakes strongly adhering to the ground, mutually fastened together by means of the writhings which lashed them to each

other, and stretched at their full length, they pulled, but pulled in vain; and, in the moments of greatest exertion, that part of their bodies which was entwined, seemed extremely small, while the rest appeared inflated, and now and then convulsed with strong undulations, rapidly following each other. Their eyes appeared on fire, and ready to start out of their heads. At one time the conflict seemed decided; the water-snake bent itself into great folds, and by that operation rendered the other more than commonly outstretched; the next minute the new struggles of the black one gained an unexpected superiority, it acquired two great folds likewise, which necessarily extended the body of its adversary, in proportion as it had contracted its own. These efforts were alternate, victory seemed doubtful, inclining sometimes to one side, sometimes to the other; until at last the stalk to which the black snake was fastened, suddenly gave way, and, in consequence of this accident, they both plunged into the ditch. The water did not extinguish their vindictive rage, for by their agitations I could still trace, though I could not distinguish, their attacks. They soon re-appeared on the surface, twisted together, as in their first onset: but the black snake seemed to retain its wonted superiority; for its head was exactly fixed above that of the other, which it incessantly pressed down under the water, until it was stifled, and sunk. The victor no sooner perceived its enemy incapable of further resistance, than, abandoning it to the current, it returned to the shore and disappeared."

"Were ev'ry falt'ring tongue of man,
Almighty Father! silent in thy praise,
Thy works themselves would raise a general voice;
Even in the depth of solitary woods,
By human foot untrod, proclaim thy power."

END OF VOL. II.

MAHARAJA SERFOGI'S S...